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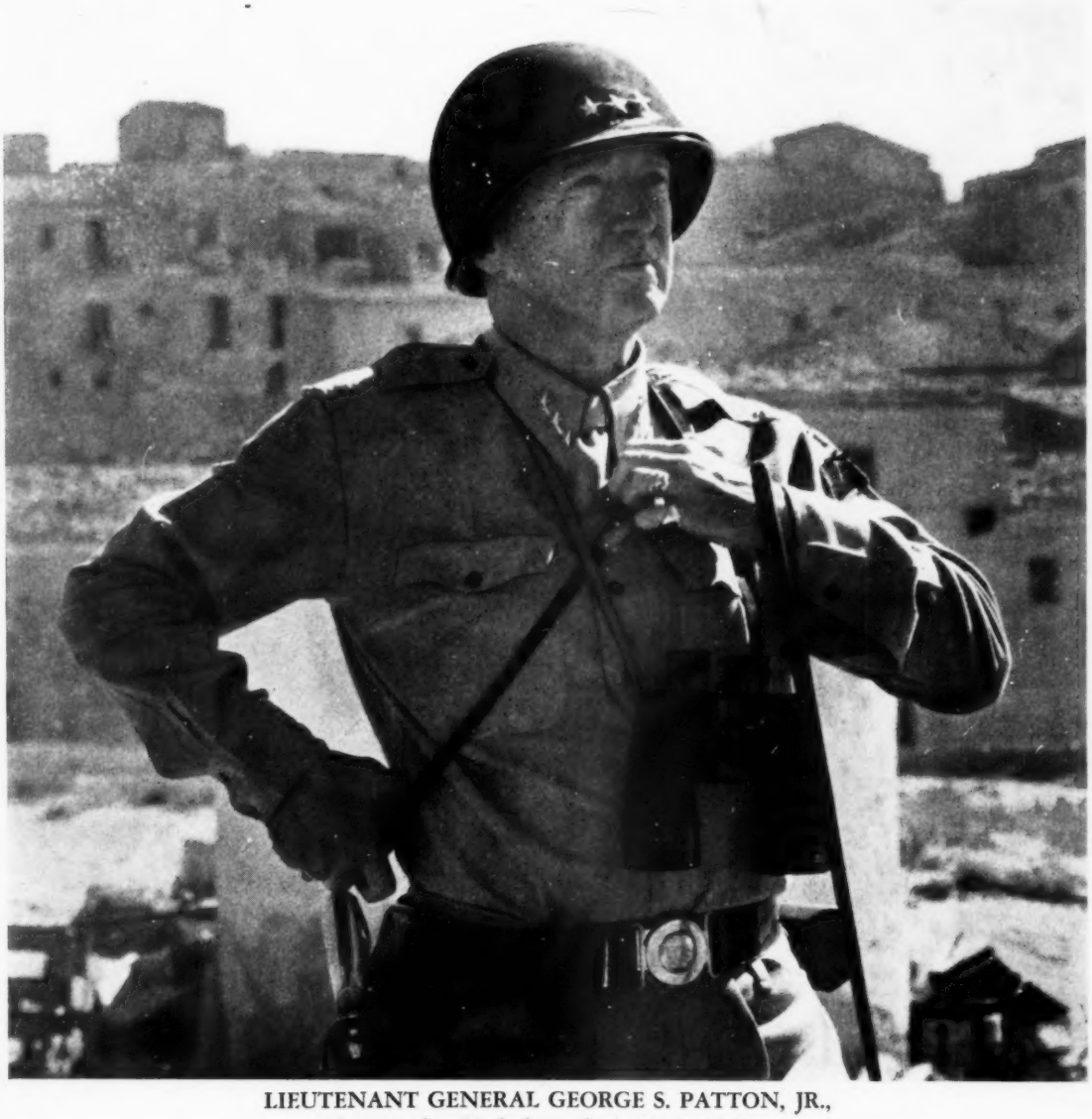
THE CAVALRY JOURNAL



LIEUTENANT GENERAL GEORGE S. PATTON, JR.,
Commander, U. S. Seventh Army, in Sicily.

SEPTEMBER-OCTOBER, 1943

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THE JAPS DIG IN

Maj

The Jap, once on the mad offensive, has been set back and forced to throw up a desperate line of defense in an attempt to conserve what he has gained.

Looking ahead, it may be assumed that with the ever mounting strength of Allied forces in the Pacific area, further offensive action on the part of the Japanese will be a rare occurrence. Furthermore, as the Allies turn more and more of their attention to the Far East, and as the march that will force the Jap back to Tokyo gets more strongly underway, it is the Japanese *defense* which will be encountered—and it is the Japanese *defense* with which we now must learn to deal.

Our knowledge of what the Jap will do on the defensive is sketchy up to the present. Guadalcanal, New Guinea and New Georgia are at present our only examples. In these campaigns, however, the Jap tactics have been practically identical. It is from the former that the writer has gained the direct experience upon which he has drawn in the preparation of this article. Examination of the other two campaigns reveals that practically identical situations have been encountered.

As is well known, the campaign of Guadalcanal resulted in the destruction of between 15 and 20 thousand Japanese who fought to the finish. From the initial landing of Marines on August 7, 1942 to the final phase conducted by the Army, which ended February 9, 1943, the campaign was a persistent combat against a series of defensive measures. At first the Japanese tried to regain what they had lost; then they fought to save themselves from complete annihilation. Only the evacuation of a very small percentage of the troops by a suicidal task force of Jap destroyers prevented the latter.

Marines inspect a Jap machine gun emplacement on Guadalcanal Island. Acme.

During this period, it was truly demonstrated that the Japanese had the ability to defend with tenacity the ground he had been able to gain offensively. His basic philosophy of "do or die," which he so aptly expresses in an attack, applies just as strongly when he is forced to defend. It is this fact that leads us to our basic premise that each and every Japanese in a defensive position must be killed individually before the position can be taken. The best way of doing this, with the least loss to our own troops, can be discovered only through the combination of sound military principles and the few examples with which we have had to contend.

Jap Defense Tactics

The outstanding characteristic of all Japanese positions up to and including rear bivouac areas in Guadalcanal was that, in the strictest sense of the words, they were *dug in*. Fox holes, dugouts, slit trenches, pill boxes, deep artillery emplacements litter the entire area occupied by the Jap. In all of these illustrations the digging in was not merely superficial but solid and deep. Bivouac areas consisted for the most part of fox holes, covered with heavy logs, with entrances that were a tight fit to the average American soldier. In these holes (as evidenced by the great amount of personal possessions left behind) the most of the Japanese soldier's life was spent.

Defensive entrenchments on the front line varied with the terrain but were based primarily on the machine gun pill boxes sunk to a depth of two or three feet, securely buttressed, and covered with one and sometimes two layers of heavy logs. These in turn were covered with dirt and appropriately camouflaged. Facing the expected line of our advance, a small aperture was left for the muzzle of the gun. Because of the size of this aperture, the fire from guns thus protected was limited in both deflection and elevation. In most cases, this greatly decreased the effectiveness of the weapon.

Another type of emplacement often encountered was constructed under and between the roots of large trees. Often these emplacements were necessarily small since their method of construction involved digging directly under the tree, but they nevertheless afforded a maximum of protection and concealment.

by

Major Willard O. Foster, Jr., Cavalry

A third type of emplacement, encountered where the coral formations of the island made it favorable, was a short tunnel leading into the soft coral and amply protected at its exit by large blocks of the same material. Emplacements of this type when encountered caused difficulty in neutralization.

By clever disposition of these emplacements, the Japanese built up defensive lines whose strength caused severe trouble in their penetration. It was not long before our forces discovered that the fire lanes leading from them were often small, but neither was it long before they discovered that, in the majority of cases, each emplacement was amply protected by crossfire from other guns or from a well concealed rifleman in its close vicinity. The endless combinations of defensive setups thus constructed provided commanding officers just as endless headaches for every hundred yards gained.

Three Emplacements Stalled Yanks a Month

The following defensive position, encountered on Guadalcanal, perplexed and finally baffled all the Yankee ingenuity that was possible to bring against it for a period of close to a month. As was common throughout the campaign, the American troops held the top of a ridge line, often a grassy area, while the Japanese dug themselves in along the steep jungle-filled ravine directly over the edge of the American occupied ridge. In this instance, there were three strongly constructed emplacements, as well as the usual supporting riflemen.

One emplacement buttressed amongst the roots of a tree was on the steep forward slope of the ridge at the edge of the jungle. The other two emplacements were across the ravine on the slope of the ridge next ahead. These were also at the edge of the jungle but fired approximately across the top of the trees which filled the ravine. Exposing oneself over the crest of the American-held ridge drew fire not only from the emplacement directly beneath, but from the two guns on the opposite slope whose fire (coming through the trees) originally deceived us as to their location.

The first attempt to eliminate these positions was by mortar, but the strength of the emplacements and the

These captured machine gun emplacements indicate the thoroughness with which Japs dig in. At top, a U. S. soldier in New Guinea has difficulty getting his shoulders through the opening. Center, an Australian near Buna investigates a pill box still filled with smoke from a grenade explosion. At right, a logged emplacement is cleaned of Jap effects.

Top Photo: Press Assn. — *Bottom:* Acme

Acme

Mounted near the airport on Guadalcanal is this .50 caliber Jap machine gun which was captured from the Japs. Here a U. S. gun crew gets ready to give the Japs their own medicine.

smallness of the entrance effectively withstood the mortar fire. A few of the supporting riflemen were undoubtedly eliminated, but they were promptly replaced from the rear. The actual small size of the emplacements and the trees and foliage which surrounded them made it almost impossible to make a direct hit by artillery fire on the two rear guns, while the position of the forward gun on its steep slope could not be reached by the highest angle fire attainable. Again, supporting riflemen were hit but were rapidly replaced.

Strong patrols, sent to each flank and up and down the ravine, were quickly fired upon by the supporting rifles and by the two rear guns, whose slightly wider aperture permitted them sufficient deflection. It was impossible to penetrate deeply enough with patrols to take this position from the rear; furthermore, it was evident that even had this been attempted, the same situation would have been met in the reverse. After three or four attempts with patrols—including using them at night—this method was eliminated.

It was at this point that ingenuity came into play. The forward slope was sufficiently steep for demolitions to be lowered over the edge close to the forward emplacement; although in doing this, it was necessary to be exposed to the fire of the two rear guns for the short time that it took to throw the demolitions over. Unfortunately, this fire, encountered while throwing, prevented the accurate placing of the demolitions. An attempted solution to this difficulty was a net of instantaneous cord with TNT blocks hung on it. Again the strength of the emplacement was sufficient to withstand this attempt. A last attempt at demolition was made when a fifty pound iron keg of TNT was lowered over the edge and suspended as close to the emplacement as hasty observation would allow. Following the resultant explosion, a concerted rush was made to the edge of the crest, but the first man who put his head over was greeted by a burst of fire from the besieged emplacement.

A final attempt at destruction was made by pouring gasoline down the slope and igniting it, but even this means failed. When the final drive commenced, this particular position was by-passed and surrounded. Five or six days afterwards the Japanese defenders were killed when forced out to seek food and water.

Seventy Emplacements on One Hill

A similar set-up on a considerably larger scale was encountered in the taking of a strategically important hill. In this case, a total of seventy-odd machine guns, both light and heavy, were emplaced in concentric triangles up the hill. Each gun was securely emplaced in a pill box, dug in only from six inches to a foot, but constructed with two or three layers of logs all around, buttressed, covered with about six inches of dirt, and carefully camouflaged. Inside with each gun were at least two riflemen, while more riflemen covered the emplacement from tree positions in the near vicinity.

This entire position was in dense jungle, through which the fire lanes were skilfully cut. It was a position which at first appeared to be nearly impregnable.

Much active reconnaissance was necessary before the entire picture of the position was gained. During this time, artillery concentrations helped to keep the enemy constantly harassed and under cover. At the conclusion of the reconnaissance, a hard jungle-march resulted in the almost complete encirclement of the area.

It was during this march, made over extremely difficult terrain, that the idea of using a plane to maintain direction was evolved. The constant obstacles in the form of deep ravines, dense jungles and the like, made it extremely difficult to follow a compass course. Therefore, *at frequent intervals a plane flew over the route from the marked starting point to the terrain feature that was the objective.* Each time the route was flown, which was about once every fifteen minutes, the motor was constantly gunned in order to provide a distinct signal to the forces below. The results were satisfactory.

Following the encirclement of the position, artillery fire was increased to some extent, and by one means or another the various emplacements were neutralized. The fact of the encirclement, plus the constant artillery, soon eliminated the riflemen not in the pill boxes, while occasional direct shell hits and results of accurate grenade throwing soon made channels into the position, which evolved into a "divide and conquer" situation.

During this period, it was discovered that in most cases a skilful crawler could get within twenty-five yards of a pill box before coming into the covering crossfire. This, of course, was due to the small apertures in the emplacements, and naturally takes into account the loss of the outside riflemen plus those inside ones who in most cases went into the tree positions as replacements. It was necessary, however, for the crawler to observe sharply for signs of prepared fire lanes as he closed in. The neutralization of the emplacement then could usually be effected by one or two carefully thrown hand grenades. Along this line, however, it is well to mention that grenades so used should be held for a second or two; for the enemy will take a chance on any grenade falling within reach and toss it back with extreme rapidity.

During this period also, an attempt was made to employ both AT grenades and the 37mm AT gun to reduce the pill boxes. The dirt covering over the emplacement, however, did not provide a sufficiently hard contact to set off the grenade; while the dense jungle made the setting up of the 37mm so difficult that the gun attracted enemy fire long before it could be brought to bear on its target. The few times that the AT grenade was effective, it did a complete job through the resultant concussion within the pill box. Given a more delicate detonation, the rifle grenade would be a highly successful weapon under these circumstances.

Toward the end of this particular operation, the position was reduced to one small but strong area with approximately eighteen guns. This final position was an example of an almost perfect defense. It was just too large to be rushed successfully, so well dug in as to make light artillery almost ineffective, and so skilfully concealed that an accurate reconnaissance was almost impossible. There was no thought of surrender on the part of the enemy as a whole, even though they undoubtedly realized the hopelessness of the situation. Completely cut off, the group was eventually reduced to complete collapse from starvation and exhaustion. Only toward the end was an attempt made by the enemy to escape from the encirclement. Several sharp and desperate night attacks were made without success. Finally with extreme difficulty, our forces succeeded in bringing a light tank up to the final position. Here, in the dense jungle, the armored behemoth blasted out all of the pill boxes that it could reach. The infantry soon overran the remaining positions and the operation ended.

Strong Points at Critical Locations

The above examples amply demonstrate the outstanding features of Japanese jungle defense. All other situations resolved themselves into the same mold.

The Jap defensive line appears to consist of a series of strong points. These are apparently all situated at locations critical from the defensive point of view. Trail intersections, terrain features, river crossings are typical strong point locations. The second of the two defensive operations described above, for example, occurred at one flank of the Jap defensive line and was at the same time a terrain feature that afforded excellent observation of practically the entire area held by our forces—including the all important airfield. Furthermore, it defended a trail leading around the entire American positions.

It is obvious that these strong points are prepared well in advance—and regardless of whether it appears likely that they will be used. The necessary troops are shifted from one point to another, depending upon the threat made along the line. Strong points known to be directly in front of our lines, if not kept under a constant siege, would be evacuated in favor of another point under our attack. A few of the enemy would remain behind for purposes of deception. These would strongly engage patrols and give the appearance that the area was still heavily manned. If, however, by the increase of patrols, artillery, or general activity on the part of our forces, it appeared that an attack was imminent at that point, enemy troops would quickly be shifted back into the area to meet the threat. Occasionally such strong points were occupied by our troops by taking rapid advantage of the fact that for the moment they obviously were defended by but a few of the enemy. If the existence of this particular Jap habit had been realized sooner, many of the strong points might have been taken with ease. The general difficulty of jungle reconnaissance proved a strong factor in favor of the Jap in this respect.

Summary

1. The Jap digs, digs, and digs until he is thoroughly and solidly under cover.
2. His machine gun positions are strongly emplaced, and practically *every* gun is covered by crossfire and/or riflemen.
3. He uses fire-lanes extensively.
4. His line of defense consists generally of a series of strong points which, if he is outnumbered along the line, he will occupy only when necessary.
5. He will occasionally make fierce sallies from his defensive positions—especially when attempting to relieve strong pressure being placed against him.
6. Predetermined defensive positions, notably important terrain features, are prepared well in advance.
7. Defensive positions are carefully concealed. In this respect, the Jap has been known to allow a position to be overrun while he remained concealed. When this happens, he will remain completely out of sight until our unsuspecting rear echelons are surprised by the enemy rising out of the ground practically in their midst.
8. The Jap won't quit; *he must be killed.*

The Jap is good. *He has a crack fighting team, but until recently he has failed to take into account just one thing—in a trained American soldier, he has met a better man than he is!*

Sicily EUROPE IN

by Major G. R. de Beer, British Army

THE invasion of Sicily is the largest amphibious operation yet carried out in the history of war. Conceived by President Roosevelt and Prime Minister Churchill at Casablanca six months ago, the scale and complexity of the operation has been a searching test, not only of the competence and efficiency of the planning staffs, but of the ability of the sea, land, and air forces of three countries—Great Britain, the United States and Canada—to coöperate for the common good of the United Nations.

The operations against Sicily consisted of five phases: first, the mounting of the operation; then, the preparations for invasion by means of air bombardment; third, the landing of troops and establishment of beachheads; fourth, the engagement of the enemy's mobile reserves; and finally, the assault on the enemy's positions.

Mounting of the Operation

The first phase involved the assembly of troops, equipment and supplies, and of the ships, landing craft and assault barges to convey them. Altogether, some 3,000 ships were used. Some made the invasion direct from the United States and Britain, others from North Africa. The ships had to be loaded in such a way that the first things wanted out of the holds were the last things loaded into them. The appropriate type of ammunition had to be available immediately at the right place for each type of gun, in the right quantities, and at the right time. The medical stores had to arrive with the doctors. Gasoline and oil had to be on hand for tanks and transport vehicles.

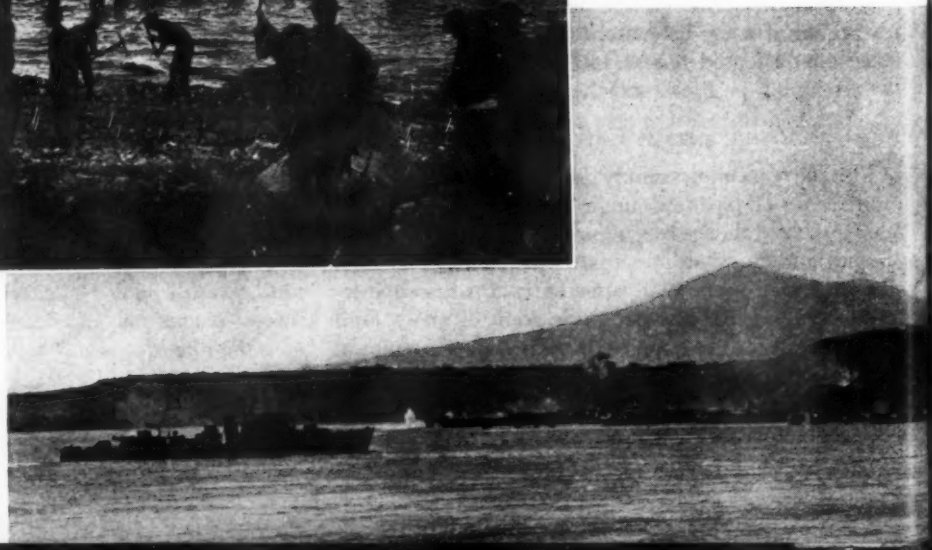
All this had to be planned and carried out in the utmost secrecy. Notwithstanding the magnitude of the distances to be covered, and the differences in distance between the various ports of sailing and the final goal, the ships all arrived approximately together at the spots selected for the attack on Sicily.

While the ships were being loaded and during their journey they had to be protected from attack by U-boats and aircraft, and from the possibility of attack by the Italian fleet. This was the task of the British and United States Navies, and the Allied Air Forces. It was perfectly carried out.

Before the assault on Sicily was launched, preparatory work was undertaken to soften the defenses by bom-

British Official Photos

Left: Just after dawn on July 10th. Men of the Eighth Army unload stores from British ships, while others build a beach-road for heavy and light traffic.



Below: A Hunt class destroyer engages shore batteries at Augusta, while Commando troops make for the shore in their landing craft. Note Mt. Etna in the background.

MICROCOSM

This scene on a winding hill road shows Eighth Army troops as they advanced toward Catania.

barding enemy airfields, forts, and communication centers. This was largely the work of the Allied Air Forces based on Northwest Africa and Middle East. Pantelleria, which had been captured, and Malta, the invincible island which had been developed into a first-class offensive base, provided airfields close enough to Sicily to enable bombers to be protected by fighter aircraft. Fighter-bombers also could operate against trains, road traffic, and troop concentrations.

The Allied Navies helped in this preparatory work by sinking enemy ships on their way to Sicily. Allied submarines went so close inshore that they were able to open fire with their guns on railroad installations on the mainland of Italy itself.

All this work was carried out with due regard for security, so that the pattern of the air and naval attacks should not disclose to the enemy the objective against which the attack was to be launched.

The assault by land forces was carried out by the 15th Army Group under General Alexander. This consisted of the British Eighth Army (which included the Canadian 1st Division) under General Montgomery, and the United States Seventh Army under General Patton. The entire campaign, including operations of the Navies under Admiral Cunningham, and of the Air Forces under Air Marshal Tedder, was under the supreme command of General Eisenhower.

Landings

The initial assault force of 3,000 vessel consisted of 160,000 men—British, American, and Canadian—with 1,800 guns, 600 tanks, and 14,000 transport vehicles. This initial force was followed day and night by large reinforcements, which included some Indian and French units.

The sector selected for assault was the southeast coast of Sicily, which enabled landing operations to be carried out under constant fighter aircraft cover. Sicily is about the size of the Crimea. It was defended by 5 Italian coastal divisions, 5 Italian field divisions, and a number of German troops and air force personnel. Both the 15th Panzers and the Hermann Goering Divisions, last reported as surrendered in Tunisia, had been reconstituted from elements evacuated. Altogether, the enemy strength was estimated at about 300,000 men.

The assault began on the night of July 9th-10th, when British airborne troops in gliders landed near Syracuse, and American parachutists landed near Gela.

At dawn on July 10th, the seaborne landings were made, under cover of the guns of the Allied Navies and of bombardments and a protective fighter umbrella provided by the Allied Air Forces. The British troops landed between Siracusa and Cap Passero, the Canadians at Cap Passero, and the Americans between there and Licata.

The weather was very bad with high winds and heavy seas, but in spite of these difficulties all the landings were successfully made, and the first enemy resistance was quickly overcome. Beachheads were established; further forces were landed; and within a few hours the British were in possession of the port of Siracusa, the Canadians of Pozallo, and the Americans of the ports of Gela and Licata. This was important, as it enabled further disembarkation to take place with the facilities of these ports. The Allies also lost no time in capturing a number of airfields and putting them into use.

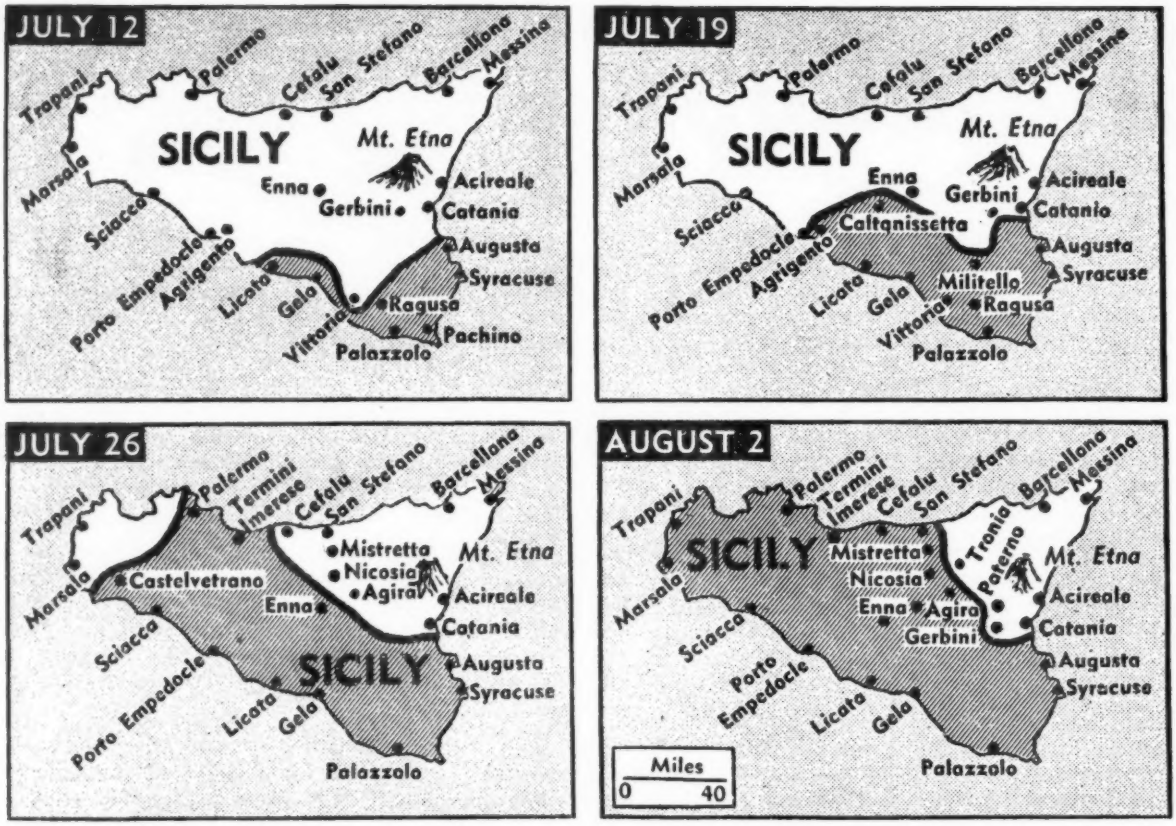
The enemy had been taken by surprise both in regard to the time and place of the landings. It was some time before he reacted. On July 11th, the Axis forces attacked the Americans near Gela with tanks but were driven off. Similarly, on July 13th, a German attack near Augusta was driven off by British forces.

Meeting the Enemy

It was soon apparent that the main enemy concentration of strength was in the region of Catania, where most of his airfields were, while the rest of the island was occupied by enemy forces more widely distributed.

The British Eighth Army had been given the task of engaging the enemy advancing on Catania. The Canadians, forming the left flank of the Eighth Army, had the task of striking at Enna, the center of the island and of the enemy's communications. The United States Seventh Army was assigned the conquest of the western part of the island.

Throughout the operations, the Allied Air Forces maintained mastery of the air. By the fighter cover



which they provided, and by their constant bombardments of enemy positions, they afforded the troops the most valuable support.

British. The German positions south of Catania were protected by the largest river in Sicily, the Simeto. For the progress of the Eighth Army, therefore, it was of the utmost importance to secure the Primosole Bridge intact. For this purpose, British parachutists were dropped near the bridge during the night of July 13th-14th. They held the bridge against attacks by seven battalions of infantry until their ammunition was exhausted. Before this they had drawn the explosive charges from the mines under the bridge. When British reinforcements arrived, after breaking through enemy positions farther south, they were able with fierce fighting to secure the bridge intact and establish a bridgehead on the northern side.

Meanwhile, farther west, other British forces came up and secured crossings of the Simeto and Dittaino Rivers, ready for the final assault.

Canadian. On the left of the British forces, Canadian troops made rapid progress by hard fighting against desperate resistance. On July 16th, they captured Caltagirone, on July 20th Enna, on July 22nd Leonforte, on July 28th Agira, and on July 29th Catenanuova—which seriously threatened the enemy positions around Catania from the west.

American. The United States Seventh Army, on the left of the Canadians, rapidly accomplished its task of overrunning the west of the island. Although Italian resistance was weak, the speed of the American forces was remarkable. On July 17th they captured Agrigento and repulsed enemy counterattacks near Barrafranca. On July 22nd their armored forces swept into Palermo. On July 23rd they occupied Marsala and Trapani. The whole of central and western Sicily was now in Allied hands, together with 70,000 prisoners and over 200 guns.

The Seventh Army lost no time in wheeling eastward and, covering the sector from the north coast to the center of the island, made contact with the Canadians and formed a continuous front.

Major Offensive

On August 1st, the Allies opened a major offensive. The enemy's line of defense, looping round the southern and western slopes of Mount Etna, ran eastward to the east coast, south of Catania and northward to the north coast, west of San Fratello.

General Alexander's plan was to maintain pressure against each end of the enemy line while launching an assault against the enemy's center, southwest of Etna. In this region the enemy's lateral communications were dependent on a railroad and road from Catania through Paterno and Adrano to Bronte. The impassable barrier of Mount Etna was to serve as an anvil against which to

deliver a hammer blow that would sever the enemy's lateral communications and cut his forces in the forward positions in two.

This blow was delivered by the left of the Eighth Army and the right of the Seventh Army.

Canadian. On August 2nd the Canadians stormed their way into Regalbute. On the same day British troops crossed the Dittaino River and captured Centuripe, and then crossing the Simeto River, captured Adrano on August 6th and pushed on to Bronte.

American. On the Canadian left, the American forces attacked Troina and, after furious fighting for almost a week, captured it against desperate enemy resistance and advanced farther to Cesaro. The center of the enemy's forward line was thereby broken, and he began to fall back on each flank.

British. On the east coast, British forces captured Catania on August 5th and Acireale on August 8th, while the Royal Navy, by bombarding the enemy's rear and lines of communication, constantly covered the Army's seaward flank.

American. On the north coast American forces, advancing from San Stefano, captured San Fartello by August 8th, while a seaborne force landed east of Santa Agata under the protection of the United States Navy. The landing was successfully accomplished, and the American troops quickly dealt with an enemy counterattack and captured Santa Agata and 1,500 prisoners.

Again under the protection of the United States Navy, a second landing by American forces farther east on August 11th made possible a further rapid thrust along the north coast. Yet a third landing by American forces was made on August 16th near Milazzo, and the enemy was deprived of the use of this port.

British. Meanwhile the Eighth Army pressed onward from the south and captured Taormina on August 15th. In the following night, under cover of the Royal Navy, a landing by British Commando troops and armored forces was made at Scaletta, and the retreat of the enemy by the coast road to Messina from the south was cut. This close coöperation between the Allied Navies and Armies—enabling the latter to bypass obstacles by means of seaborne landings—contributed materially to the rapid success of the campaign.

Conclusion

From August 7th onward it had become clear that the enemy was straining every nerve to accelerate his evacuation of Sicily in small boats under cover of 500 antiaircraft guns, mostly mounted on the Italian mainland. But in the evening of August 16th, the men of the U. S. 3rd Division swept into Messina from the north, followed next morning by British armor coming up from the south—and the campaign in Sicily was over.

After thirty-eight days of fighting in extremely difficult country—ideal for defense, ill-adapted for the use of armored forces—in spite of extensive demolitions and the use of mines, bridges destroyed and tunnels blocked, the island of Sicily had been invaded and conquered.

Enemy casualties up to August 10th were 135,000 prisoners (7,000 of them German) and 32,000 killed and wounded (24,000 of them German). Approximately half of the German forces engaged were therefore destroyed. A further large number of Italians were lost to the enemy by their spontaneous assumption of civilian status.

In addition, the enemy lost over 500 guns, 260 tanks, over 1,000 aircraft captured on landing grounds, about 700 shot down, many thousands of transport vehicles, and great quantities of stores and equipment. These figures do not include the losses inflicted on the enemy in the last week of fighting, nor in the course of his evacuation, which was continuously harassed by light forces of the Royal Navy, the United States Navy and by the Allied Air Forces.

Sicily may be regarded as a microcosm of the Fortresses of Europe, and the rapid success of the Allied armies demonstrates a principle of strategy that will have its applications in the larger theater.

The enemy is strong, but since he does not know where the Allied blows will fall, he must distribute his forces. He cannot be strong everywhere, and not strong enough anywhere to cope with a determined assault by an adversary in possession of sea and air power. The Allies possess not only sea and air power but also the troops, equipment, and experience required to effect landings against opposition on enemy coasts.

Furthermore—and this is the latest appearance of an old strategic principle—when the Allies with their sea and air power have made a successful landing, it is they who now enjoy the advantages of interior lines from the bridgehead that they have captured.

That is the heartening lesson of the Sicilian Campaign, and the reward for the meticulous planning, arduous training, superior generalship and the indomitable fighting spirit of all the forces of the United Nations involved in the operations under General Eisenhower's command.

British patrol parties enter a Sicilian town after a heavy artillery bombardment.

U.S. Seventh Army IN SI

LOOKING down at Sicily from the air, a major terrain feature in the east is the Catanian plain, cut by a net-work of rivers running from west to east. Then comes Mount Etna, canalizing the ground to a narrow five-mile strip between it and the sea. West of Etna two river valleys run to the sharp spurs of the mountains pressing close to the big volcano. Between them is a third valley about 3 miles wide that opens on the coastal plain at Taormina. The north coast is rimmed by mountains with a single road running parallel between them and the sea. The whole of the northeast corner, from Mount Etna to San Stefani to Messina is rugged mountain terrain. The one central pass at Randazzo furnishes the only outlet between the two coastal roads on the north and the east.

Landings

At 2210 on the night of July 9th, while the Allied invasion fleet itself was still at sea, the first airborne troops were landed by glider. These were followed by parachute troops at 2320. Because of high winds, however, many were blown considerable distances, and the troops were landed in a much more scattered manner than had been planned. Many of them were unable to carry out their prearranged assignments; others, improvising their missions as they went, proceeded with the destruction of such enemy installations and communications as they found. In a few cases, the small groups able to unite, took and held fortifications until relieved later by other troops.

At an American beachhead in Sicily, prisoners are guarded while waiting to be removed. Supplies and troops are still being landed.

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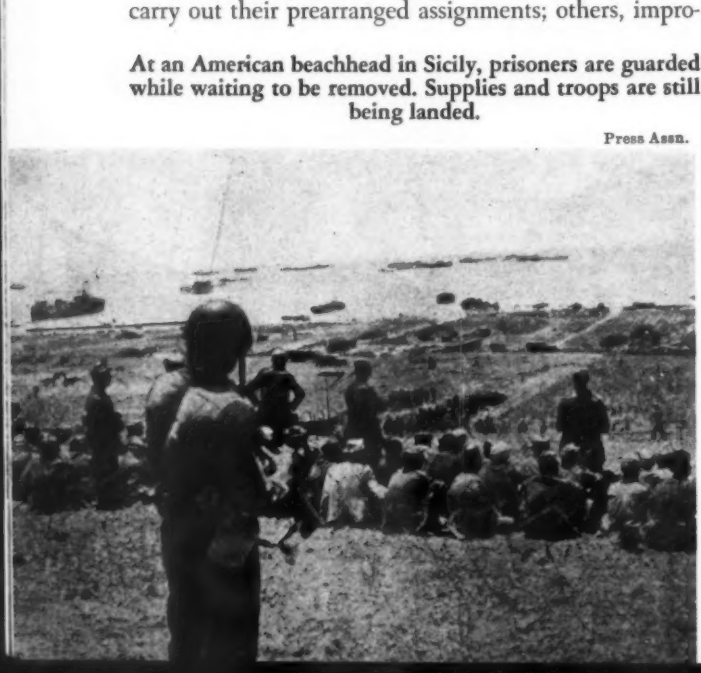

The first Allied troops beached at 0300 on the 10th, and by 0600 shore batteries had been shattered, beachheads established, and tanks, artillery and reinforcements were being brought ashore for the advance inland.

By the end of the first 18 hours, it had become clear that the Allied armies had succeeded in establishing a firm, broad beachhead that extended for over a hundred miles along the southwestern tip of Sicily.

On the extreme eastern end of the 100 mile beachhead the British Eighth Army, commanded by General Sir Bernard L. Montgomery, landed between Cap Passero and Siracusa and proceeded north along the east coast road against only slight immediate resistance. By the night of the 11th, British troops secured Siracusa and a few days later entered Augusta.

The Canadians, who landed at the southern tip of the peninsula, advanced inland through Palazzolo.

The U. S. Seventh Army, under Lieutenant General George S. Patton, Jr., landed at three points along the south-central coast. The 45th Infantry Division, under Major General Lloyd Middleton, pushed from Scoglitti to Vittoria, and within twelve hours secured the airfield there for the immediate use of Allied planes. The 3d Infantry Division, under Major General Lucien Truscott, landed at Licata, secured that important air base, and started north toward Caltanissetta. The 1st Infantry Division, under Major General Terry Allen, ran into the strongest opposition in its landings at Gela.

Battle of Gela

The Axis defense was under the command of Italian General Alfredo Guzzoni, who ordered his 4th Division to attack toward Gela, and his 54th Division toward Siracusa. Each division was given a detachment of the Hermann Goering Panzers.

The 1st Division, which had established a beachhead at Gela approximately 7 miles wide and 2½ miles deep, was confronted on the morning of July 11th by one of

The 3d Division pushed triumphantly across Sicily in less than two days.

Acme

these Italian prongs, supported by about 100 German tanks.

A handful of American parachute troops who had landed in the enemy rear on the night of July 9th, made a valiant but hopeless stand along a road guarding the approach to the beach, but the tanks rolled over them and on toward the 1st Division, still in the process of landing.

The Italian 4th Division, plus the 100 German tanks, attacked from all three sides. Only three tanks from the U. S. 2d Armored Division had been landed at this time, and despite the efforts of the eleven artillery batteries, the enemy made considerable progress. The 1st Division was pushed steadily back. On the north, the enemy got within a half-mile of the beach, while on the east he made such unexpected gains in the direction of division headquarters that members of the staff grabbed rifles and fell to. Severe fighting continued all day.

The landing might have met with disaster, but at some point, word of the enemy attack reached a destroyer off shore, and the naval guns were turned into the tanks. It is not known how many tanks were knocked out in this manner, but the destroyer continued pounding the tanks until dark, when the division made a counterattack and pushed the enemy back. A later count disclosed that 84 enemy tanks, 14 of them "tigers," were knocked out in the olive groves around Gela.

The First Triangle

After securing the two supply ports of Siracusa and Augusta, the British Eighth Army, advancing toward Catania, ran into a main Axis defense stand, flanked on the east by the Ionian Sea and on the west by the towering volcanic Mount Etna. For approximately three

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Spearheading the remarkable advance from Agrigento, the 2d Armored Division rolls through the battered streets of Palermo.

weeks it was blocked stubbornly in every effort to break through.

During this time, Montgomery consolidated his position, secured the outlying areas on his flank, and waited for sufficient ammunition to blast the enemy from his Etna base. Not until August 1st at 0600 did he make his all-out attack which sent the Germans reeling toward Messina.

Meanwhile, the conquest of the rest of the island broke down into several separate phases.

The American troops, having secured their bridgeheads to the east, spread out in two main directions. The 1st Division headed straight north from Gela. The 3d and 45th Divisions, plus the 2d Armored Division fanned out in a west-northwest direction. Against steadily increasing opposition, by the evening of the 15th they had fought their way to a line running roughly through Niscemi—Riesi—Canicatti—Girgenti.

From Canicatti, the 3d Division headed rapidly west toward Agrigento and after severe fighting, strongly supported by medium artillery fire on shore, moved into that city on the 17th. Ammunition for the American 155mm guns in this section was hauled through the hills by scores of Sicilian mules, captured and pressed

by Christine Harbour

Associate Editor, *The Cavalry Journal*

into service. It has been reported that the 3d Division used as many as 500 mules during its fighting in Sicily.

Agrigento-Palermo

Following the fall of Agrigento, there occurred one of the outstanding military events of the entire war—a blitz that outblitzed anything that the Germans pulled during 1939-40. The 2d Armored Division and the 3d Infantry Division, supported by the 82d Airborne Division, pushed from Agrigento to Palermo—a distance of 72 miles over hills rising as high as 3,000 feet—in less than two days. General Geoffrey Keyes, Commander of the II Corps of the Seventh Army, who headed this outstanding operation, arrived in Palermo and accepted its surrender on July 22nd.

In writing of this advance Quentin Reynolds said, "They moved so fast that often the German and Italian 88s, which they captured en route, had not been pointed around or set up to shoot against them. . . . They had some opposition not furnished by the terrain, which is hilly in some places and marshy in others, but they did something the Italians have never done—*they marched by night*. The Italians thought it not quite sporting for the Americans to barge into their camp just as they had got to sleep."

Palermo was taken a full week earlier than the General Staff had anticipated, and spearheads were immediately fanned out toward Marsala and Trapani, both completely cut off from any supplies or support. Because of the quick conquest of the western part of the island, insufficient attention has been given to the superb leadership and brilliant maneuver that cut the island in two before heavy resistance was fully organized.

The North Coast Road—Battle of "Bloody Ridge"

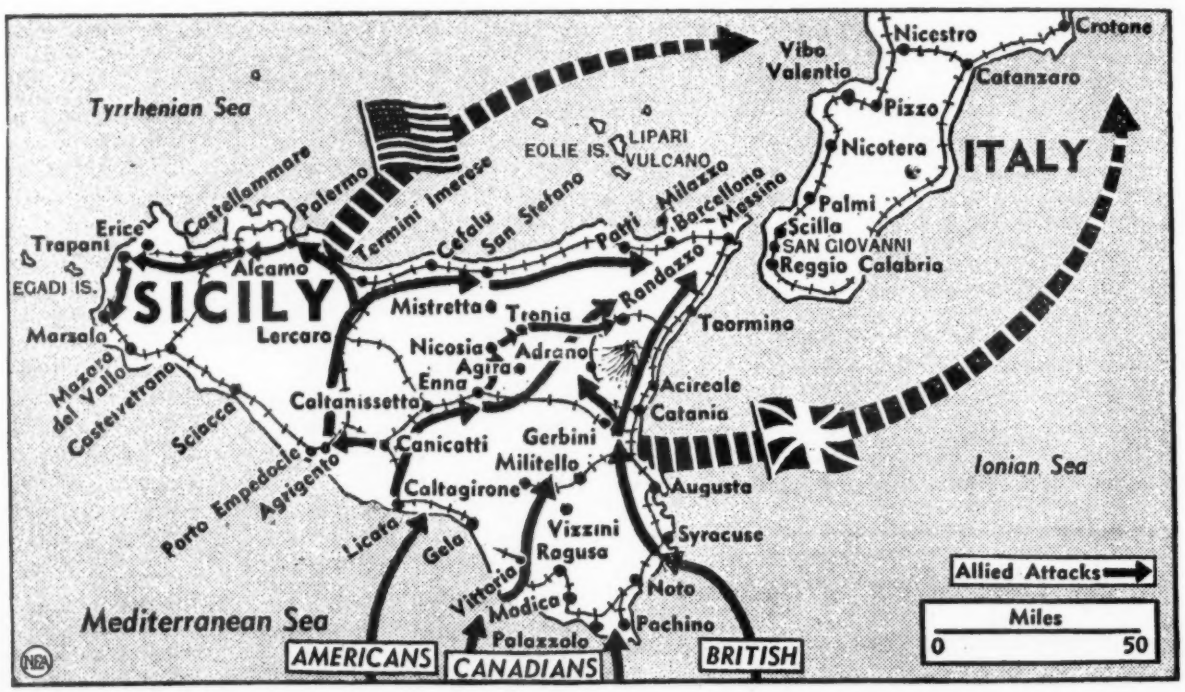
From Palermo, the main body of Americans turned east along the north coast road, a narrow strip flanked on the north by the Tyrrhenian Sea and on the south by a precipitous ridge, cut only by a few mountain passes to the central plain.

Al Newman in *Newsweek* describes this terrain very graphically. "The coast road winds over the tips of high ridges running down to the sea—driving as much as a mile inland to cross occasional wide, dry stream beds on multiple arched bridges of brick. It is of standard two-car width and has a macadam surface. Defending such a road, one of your flanks is secured by water and the other by your artillery placed on the reverse slope of a ridge a mile or two inland. Then as you retreat you blow up the bridges behind you, realizing that this will not hold up the enemy indefinitely but will delay him as he improvises a road through the boulders of the stream bed."

The 45th Division, spearheading the American advance along the coast road, ran into its first heavy opposition at the end of July in the Battle of San Rosso Hill—on the map Hill No. 335, but named by the men of the 45th, "Bloody Ridge"—which lies west of San Stefano.

From prisoners captured, it was learned that enemy troops contained elements of Rommel's former Afrika Korps and the 29th Motorized Division. Some of the prisoners had belonged to the 71st Regiment, which the German High Command had considered sufficiently valuable to evacuate from Stalingrad just before the Russians encircled that city.

Quentin Reynolds, who witnessed this battle, wrote



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From an elevated observation post U. S. soldiers watch the results of artillery fire as smoke rises from a shell burst on Troina. The town was later taken by units of the 1st and 9th Divisions.

in *Colliers:* "This hill was like a thousand other hills here in northeastern Sicily. . . . It was two miles ahead of us, and two companies of our 45th Division were trying desperately to hold it. They had lost it twice this day and now . . . our boys had regained it. A mile back of us our 155mm guns (the boys call them the Long Toms) were walloping away at a hill just four hundred yards beyond San Rosso. The hill was higher than San Rosso by perhaps a hundred feet. The Germans had a lot of artillery there and were pouring it down on the crest of San Rosso. They were throwing 88s, machine gun fire, and that six-barreled rocket gun they like so much —and that was bad. We could hear this and see the top of the hill crowned with white smoke, yet San Rosso had to be held at all costs, and tomorrow the hill beyond (where the Germans now were) would have to be taken."

After the capture of San Rosso hill the 45th Division was replaced by the 3d.

Hill by hill, the Germans were finally pushed back along the north coast road. The capture of San Stefano finally secured the mountain pass and opened the road leading southward to Nicosia, which had fallen to the 1st Division, fighting north across the southern plain.

The Last Triangle

By August 1st, the Axis had been forced back into the rugged northeast corner of the island where their line ran roughly from Catania on the east coast, through Troina in the center to San Stefano on the north. From then until the final capture of Messina on August 17th, they bitterly contested every foot of rugged, precipitous ground, and ceded it only after ample use of mines and demolitions assured them of a tedious Allied advance.

During the fighting in this mountainous terrain, there appeared on the flank of the 1st Division a regiment of French Moroccan cavalry known as Goumiers. These hard-riding, hard-fighting troops slashed around German road blocks and, fighting dismounted with long knives that beheaded the enemy in one single stroke, created havoc among the Germans. (See Pages 29, 30 and 31.)

Advancing on the flank of the 1st Division, the Goums captured the town of Capizzi, northwest of Troina.

Battle for Troina

Troina, central point of the Axis line, was fiercely defended. The 1st Division, advancing from Nicosia, fought from crest to crest, through the hairpin turns of the highway at the Serra de Falco—Falcon Mountain—and finally closed in on Troina from three sides in what was probably the most bitter local contest of the Sicilian campaign.

Again quoting Newman: "Troina occupies a ridge 6 miles east of the ridge on which Cerami is situated. Troina is 500 feet higher, and the terrain between the towns is roughly a treeless bowl containing almost no cover whatever. Our problem was that of fighting our

Army engineers repair a mountain road in the wake of the German retreat. Heavy demolitions slowed the Allied advance through the mountains.

Press Assn.

way from the stage of a theater to the exit at the rear of the balcony with the enemy occupying mezzanine loges and boxes.

"At this time, the 9th Division was replacing the 1st, so combat teams from both divisions shared the honors. They were pinned down by mortar fire for nearly a week but managed to inch their way forward. Day and night our massed artillery behind Cerami played on the ridges like a hose, giving rise to the German legend of *Zauberfeuer*, or magic fire which haunts the mysterious peaks like something out of the Ring trilogy. A high officer who ought to know said it was the toughest action American troops have had yet anywhere. In the end our bombers smashed repeatedly at the outskirts of Troina, and the town fell on August 6th.

"At this point it looked as though the campaign would take far longer than it actually did. But Troina had broken the German will. There was plenty of mining and demolition between Troina and Randazzo, but nothing like earlier opposition."

Randazzo-Messina

After the fall of Troina in the center, and Catania to the southeast, the Germans employed every available demolition in their hasty retreat through the mountainous region to Messina. On August 10th United Press reported:

"The Germans are making scant effort to hold towns. The rearguard action works simply. At a particularly bad turn or vital bridge, the enemy wrecks the road and no detour is possible. Behind these blocks they set up small suicide outfits with machine guns and mortars. Mines are planted. Four such places were found south of Bronte. . . . Vehicles pile up in front of the demolitions and lay traffic wide open to German mortar crews and machine gunners hidden in the hills a few hundred yards beyond. . . . Many (of the Axis) may escape because mountainous battleground will prevent the Allies swarming in fast enough to compel mass surrender."

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A reconnaissance unit of the 3d Division searches for snipers in the streets of Messina, which they entered early on the morning of August 17th.

Amphibious Leap-Frog Landings

During the same time, along the north coast road to the east of San Stefano, enemy demolitions also prevented any slashing armored thrust that might have outflanked the Axis positions. From the sea south to Troina, the fighting was strictly an infantry-artillery combat on the ground, while from the sky, fighters and light bombers screamed down against the Germans, dug into the hillsides.

At Cape Orlando the 3d Division, under General Truscott, launched the first of a series of brilliant amphibious flanking attacks that unhinged the Germans and sent them reeling back from the surprise. Before the enemy had fully recovered, a second unit landed at Brolo early on the morning of August 11th. Lacking the surprise of the first attack, the second force encountered more opposition, but most of it was able to get through to the top of a hill behind the town from where it fought off enemy attacks for some thirty hours.

"Because of the steepness of the heights, the tanks and tank-destroyer units had to be left at the base of the road, and for a time they (the task force) prevented attempts by the Germans to break out of the trap. Meanwhile, the main body of the 3d Division fought desperately to get through to this lost outfit and ultimately did so. Brolo was a shocking sight afterward. The road was littered with corpses and battered equipment. Burning tanks and tank destroyers lined the highway, while the whole hillside still smoldered.

"In spite of the fact that the bulk of the German forces broke out, Brolo was definitely worth-while . . . The going became relatively fast. German demolitions were hasty and not as complete as before. From Brolo to Messina I counted seventeen road-bridge demolitions. Of these only eight were done with characteristic German thoroughness. Six good opportunities for demolitions were neglected entirely—a sure sign that Brolo rushed the defenders off their feet."—Al Newman.

Sicilian Finale

The Battle for Sicily—the first battle for Europe—was concluded on August 17th when British and American troops met in Messina on the northeast point of the island.

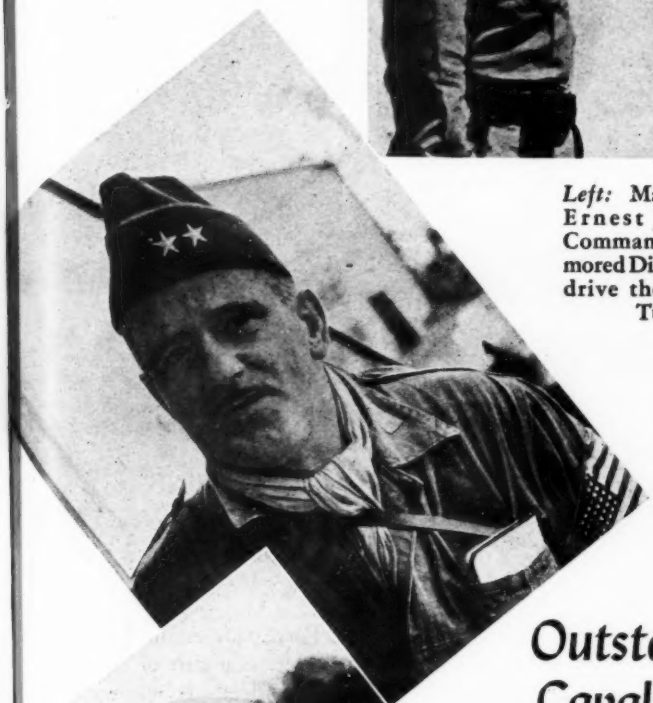
Along the three main roads of the Axis retreat—the north coast road, the east coast road, and the Nicosia-Randazzo-Messina mountain road—the Germans had fought a masterly rearguard action that prevented the Allied armies from overtaking and annihilating the main body of enemy troops. No units escaped intact, but an estimated 88,000 individual soldiers managed to cross the Strait of Messina to the Italian mainland in spite of constant strafing and bombing from planes.

Total Allied losses—killed, wounded, and missing—were estimated at 25,000. Of this number approximately 7,500 were American troops of the U. S. Seventh Army which had fought valiantly throughout the first campaign on European soil.

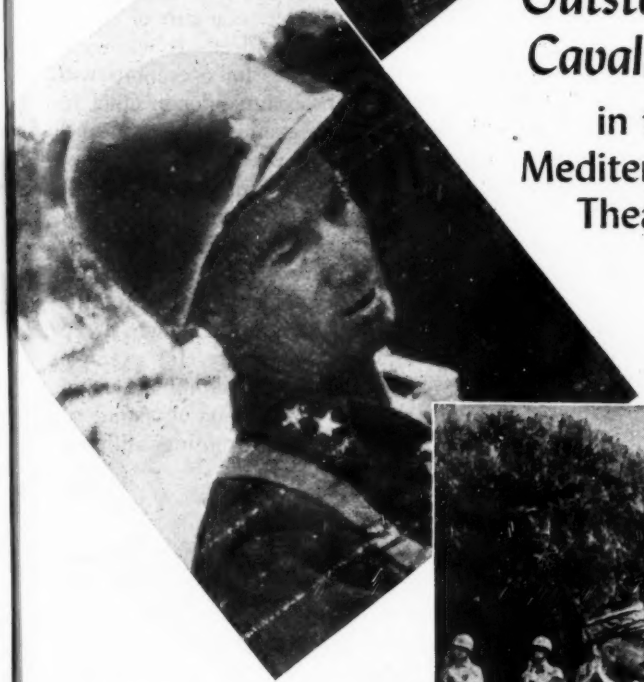
Outstanding Cavalrymen in the Mediterranean Theater

Right: Lieutenant General George S. Patton, Jr., Commander of the United States Seventh Army in Sicily, looks at a road sign in northern Sicily labeled "Messina."

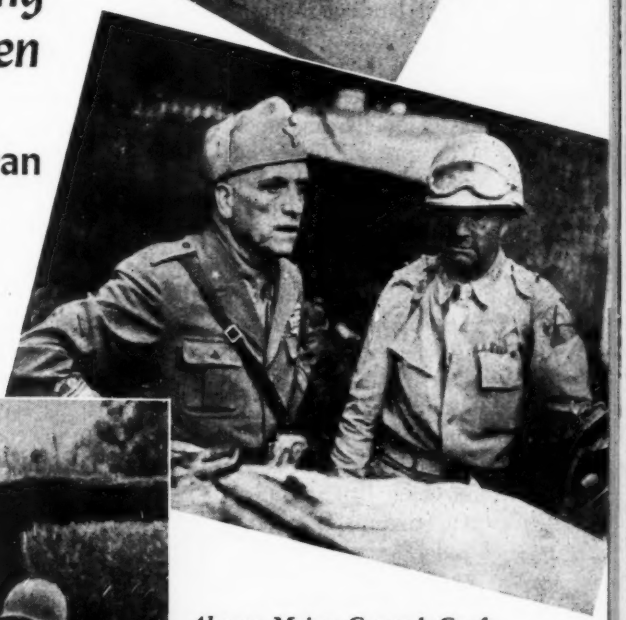
Below: Major General Lucien K. Truscott (right), Commander, 3d Infantry Division, studies a map with Lieutenant General Omar N. Bradley.



Left: Major General Ernest J. Harman, Commander, 1st Armored Division, helped drive the Axis from Tunisia.



Above: Major General Terry Allen, Commander, 1st Infantry Division, was one of the generals who directed American troops in both Tunisia and Sicily.



Above: Major General Geoffrey Keyes (right), Commander of a Corps of the Seventh Army, discusses with Italian General Molinari (left) terms under which Palermo, Sicily was surrendered to the Allies.

Left: Brigadier General Hobert R. Gay (right), Chief of Staff, Seventh Army, is shown with French officers at Fedala, French Morocco, prior to the recent Allied Campaigns.

Photos by Press Assn.

Landing Operations

by Lieutenant Herbert N. Merillat, U.S.M.C.

Official Photo, U. S. Marine Corps

U. S. Marines land on Guadalcanal Island.

THE successful amphibious operations of this war—the landings in the Solomons, in North Africa, in Sicily, and many smaller islands—were born in the islands of the Caribbean.

During the 1930's the science of amphibious warfare was gradually developed from small beginnings until, at the present time, the United States and her allies are prepared for landing operations on a scale never dreamed of before the present war.

The magnitude of this accomplishment cannot be appreciated unless one refers to the period of the interbellum, when amphibious operations received little attention. The debacle of Gallipoli dominated thought on the subject. Landings on territory held in strength by the enemy were considered almost impossible. Moreover, it could not then be foreseen that the day would come when all substantial beachheads on the continents of Europe and Asia would be lost to the United States and Great Britain and that vast numbers of men and huge amounts of matériel would have to be landed on hostile shores.

Early Development of U. S. Amphibious Forces

The need for amphibious operations was clearer in the Pacific. As a part of any war between the United States and Japan, both belligerents obviously would have to move across the water to seize islands held by the enemy. To prepare for such an eventuality, the Navy and Marine Corps began training for joint action in the thirties, and units of the Army later joined in the program.

In 1935 the Fleet Marine Force was established by Navy Department General Order, as a part of the organization of the United States Fleet. It was to be maintained in a state of readiness for operations with the fleet and "available to the commander in chief for operations with the fleet or for exercises either afloat or ashore in connection with fleet problems." The Fleet Marine Force units were specially trained for missions of seizing enemy-held bases, then defending them.

So much has been heard of "amphibious operations" in recent months that it is easy to forget that each new landing operation is a unique problem—that no formula for success in amphibious warfare can be drawn, except in the most general terms. There are, for example, some striking differences between landing operations in the Pacific and in the European theater of operations. In general they call for different training, different planning, different forces.

Differences in Bases

There is the matter of bases from which invasion forces start. In the European theater of operations, after the initial occupation of North Africa, it has been possible for our landing forces to organize at bases with dock facilities and loading gear capable of handling large numbers of ships and landing craft and of loading much heavy equipment. It may be supposed that an immediate objective of the landing forces starting from such bases is to seize a beachhead which will provide similar dock and loading facilities.

In the Pacific, on the other hand, there are relatively

few bases with facilities comparable to those of a large European or North African port. Such bases as there are, in many cases, lie at great distances—hundreds, even thousands of miles, instead of scores of miles—from the invasion force's objective. The force which attacked Guadalcanal had to load at a South Pacific port far more than a thousand miles from the Solomons. As the Pacific war progresses, enemy objectives will be farther and farther from large invasion bases. However quickly islands which are seized from the Japanese are developed as bases for another push, they cannot be expected to compare with European bases in having large and elaborate facilities.

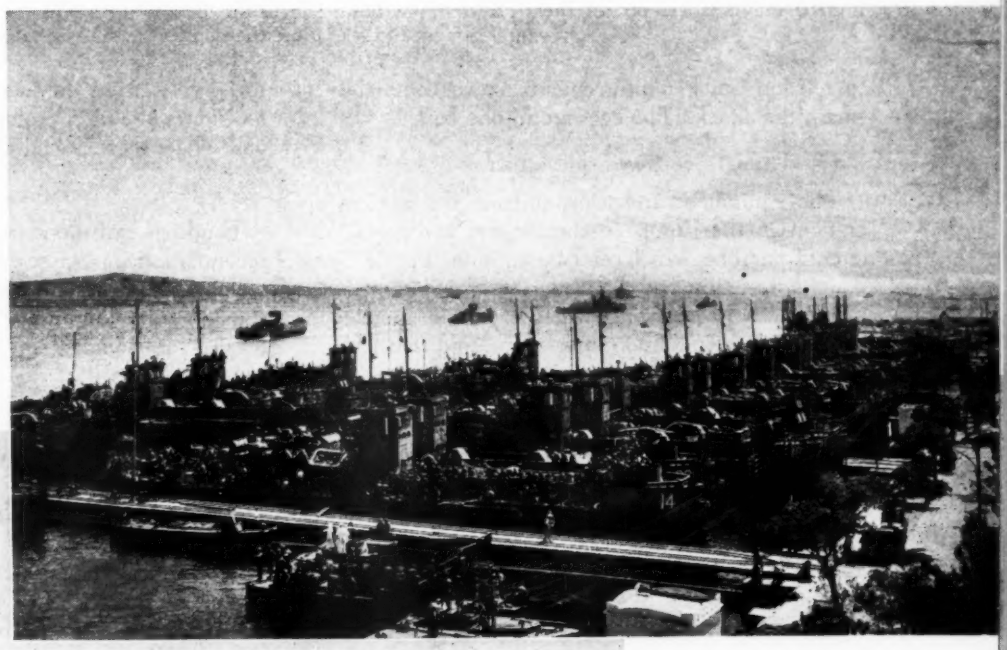
Shore-to-Shore vs. Ship-to-Shore Movements

A second difference is related to the one just mentioned. Landing operations in the European theater are likely to be, in large part, shore-to-shore movements—movements from one well-equipped base to another base capable of handling large amounts of heavy equipment. The shore-to-shore movement also permits the use of types of landing craft which may not be suitable for the long hauls in the Pacific. There the landings must, in general, be from ship-to-shore, which means that the attack force must bring with it everything it expects to have during the first phase of the operation. A movement of troops and matériel from ship to shore calls for the greatest possible speed and skill, for the transports and supply ships are extremely vulnerable to air and submarine attack as they stand to unload. If ships are lost, the men and supplies that they carry cannot be replaced quickly from other bases.

In the Guadalcanal operation more than two weeks passed before any considerable amount of supplies were brought in to supplement those landed in the first three days. Meanwhile the landing force had to operate as a self-sufficient unit.

In Japan's third major effort to recapture Henderson Field, in October, 1942, they sent six transports heavily escorted by combatant ships. One was sunk by aircraft based on Henderson Field before it reached the shores of Guadalcanal. Three others were sunk by aircraft or set afire and forced to be beached while unloading, and two were driven off while engaged in unloading. A month followed before Japan sent another attack force, and then eight of the twelve transports which approached Guadalcanal were sunk by aircraft before they reached the island, and the remaining four were beached and destroyed soon after they reached the island.

These operations, and similar ones in other areas, demonstrate that heavy losses inflicted on an attack force operating as a separate unit far from base, unable



Right: At a North African port, assault troops board boats massed for the invasion of Sicily, July, 1943. This was a typical shore-to-shore landing such as can be expected in operations in the European theater.

Left: The soldiers unload their landing craft on Sicily's shore and shove their trucks and equipment through the deep sand. A shell has just struck the water beyond the landing barge.

U. S. Signal Corps Photo

Official Photograph, U. S. Marine Corps

U. S. Marines land on Florida Island during the first stages of the Solomons Campaign in which American forces blasted the Japanese out of their position. Landing barges are drawn up along the shoreline, and reinforcements are coming from the sea. Note the density of the vegetation.

to rely on quick reinforcements, serve completely to smash the attack. The eggs are in one basket.

Differences in Equipment and Arms

The equipment and arms suitable for landing operations in the European theater are, in general, different from those which can be used in the Pacific. Some reasons for this have already been mentioned—the fact that shore-to-shore movement permits more to be carried than ship-to-shore movement, and that bases in the Pacific are less elaborate.

Terrain in the Pacific islands imposes another limitation. There our forces will typically land on tropical islands covered with dense jungle and volcanic mountains, with no roads but native tracks and trails. On Guadalcanal, for example, the only roads capable of taking vehicular traffic were the Government Track along the coast, and a few roads cut through the coconut plantations by the Japanese to serve the airfield area. Other tracks had to be cut laboriously through thick jungle. Equipment such as heavy tanks and heavy trucks, which can be used where there is an adequate road net, are useless in the jungles of Pacific islands.

The coral reefs and numerous unbridged streams which abound in the Pacific impose a limit on types of vehicles that may be used. Rubber-wheeled amphibious vehicles, for example, would be useless on rough coral. On the other hand, amphibian tractors, which proved to be very useful in such conditions, might be found too slow to be used profitably where a beach is smooth and where there are adequate roads and bridges.

Number of Landings

Landings in Europe, apart from those for raiding or reconnaissance purposes, are likely to be on a very large scale. Once a beachhead has been secured, it will be used for funneling in men and equipment and supplies needed for extended land operations over a long period of time. When the initial landing operations have succeeded and an adequate beachhead or beachheads have been secured, operations lose the distinctive character of amphibious warfare. After a relatively few landings on a grand scale in the face of enemy opposition have occurred, then the amphibious force's job is done.

In the islands of the Pacific, on the other hand, landing operations are likely to continue until the day Japan is defeated. The forces landing on an island will be concerned typically with reducing one or a few enemy positions, as in the cases of the landings on Guadalcanal and Tulagi, the Japanese attempts to recapture Henderson Field, and the campaign for New Georgia. After a relatively short campaign, our forces will move on to repeat the operation on yet another island. In this regard it should be mentioned that the Guadalcanal Campaign ought not to be taken as typical of future operations in Pacific islands. The fighting during the first months of that campaign, after the

Marines seized the airfield, was the result of Japanese attempts to recapture the air base. In subsequent operations the Japanese are not likely to be able to deliver the repeated and powerful counterattacks which postponed the final mop-up on Guadalcanal for more than six months. As our strength in the Pacific grows, it seems reasonable to expect the island campaigns to grow progressively shorter.

The Time-Table

The Guadalcanal Campaign illustrated the benefits of long training in landing operations. The time-tables set for the operation, from the time of loading the ships and embarking the Marines until the time of landing, called for the utmost speed at every step.

Officers not thoroughly acquainted with the landing operations doctrine developed in the decade before the war would have been helpless to draw up the elaborate plans for the attack in the short time available.

Officers unfamiliar with the principles of "combat-loading" (i.e., so loading a ship that the equipment and supplies, according to an intricate schedule of priorities, shall be available during the landing operation) would have found it impossible to load the ships in time to meet the date set for the departure from base. Marines, working for days around the clock in a downpour of rain, were able to meet the tight schedule.

A rehearsal of the Guadalcanal-Tulagi operation had been planned in another group of islands of the South Pacific, and for four days the attack force went through landing exercises. The rehearsal was only a partial success, for it developed that the site selected by hasty aerial reconnaissance had a bad coral beach where boats could not land without incurring substantial damage. In consequence, the rehearsal had to be confined to practicing going over the side, unloading supplies and equipment, assembling boats in rendezvous areas, moving toward the beach without actual landings, and coordinating naval gunfire and bombardment by carrier-based aircraft with the movements of the landing force.

In such unpromising circumstances the months and years of training in landing operations proved their worth. Men did almost by habit what they might not have been able to do with less training, and the actual landing operation proceeded with model precision.

When the attack force arrived off Guadalcanal, in the dark early morning hours of August 7, 1942, its finished plan of operations was only a few days old. Roughly, half of the landing force had been at sea 39 of the previous 50 days and had spent the other 11 days in the cramped quarters of troop transports. The other half had been at sea for six weeks of the previous three months, had been quartered on troop ships for three more weeks, and had had only two and a half weeks in camp on land. This, however, was part of a highly trained force especially fitted for landing operations, led by officers thoroughly schooled in the doctrine.

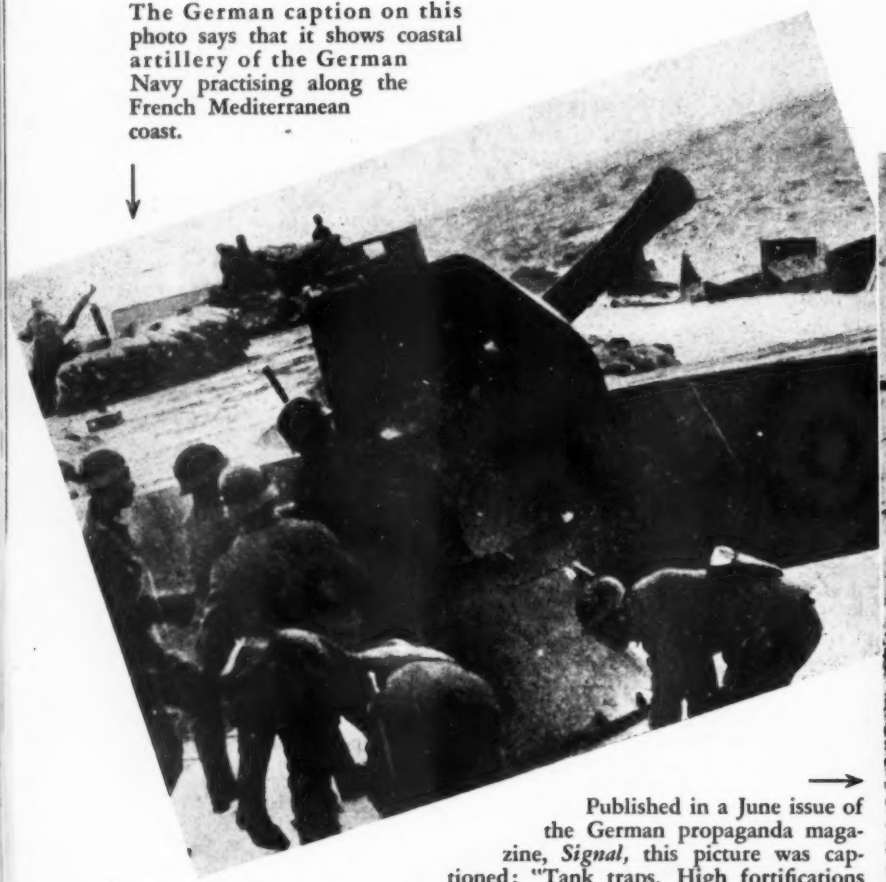
The years of exercises in the Caribbean and study in the Schools had borne fruit.

Packed with supplies within and without, two LST's (landing ship—tanks) approach Rendova Island, American base set up in the Central Solomons within artillery range of Munda Point. Much of the pounding Munda received before its fall came from guns of Rendova.

Official Photograph, U. S. Marine Corps

German Defenses in Europe

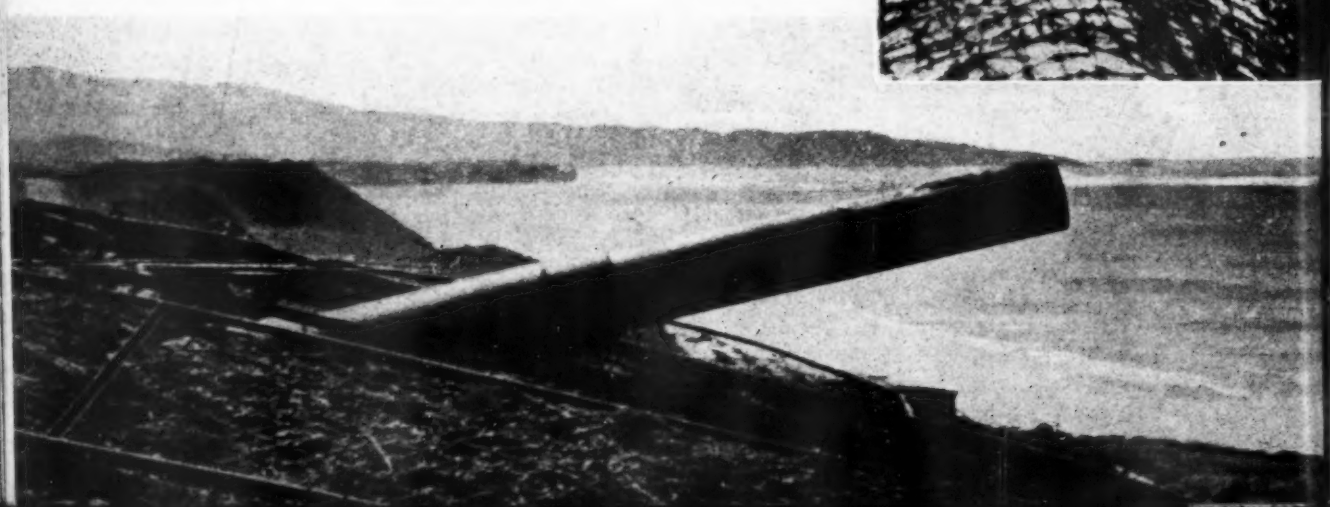
The German caption on this photo says that it shows coastal artillery of the German Navy practising along the French Mediterranean coast.

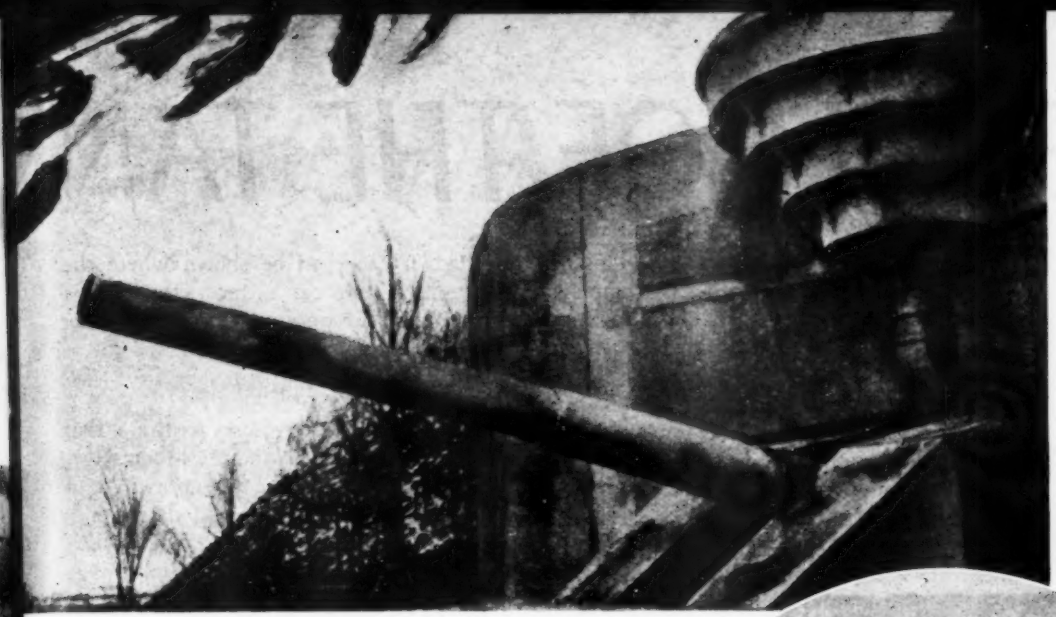


Photos by Press Assn.

Published in a June issue of the German propaganda magazine, *Signal*, this picture was captioned: "Tank traps. High fortifications such as this pinned the enemy down on the strand as early as during the retreat from Dieppe. . . ."

The caption which accompanied this photo from London says that it shows a German defense gun on the Gulf of Biscay. Source of photo unknown.

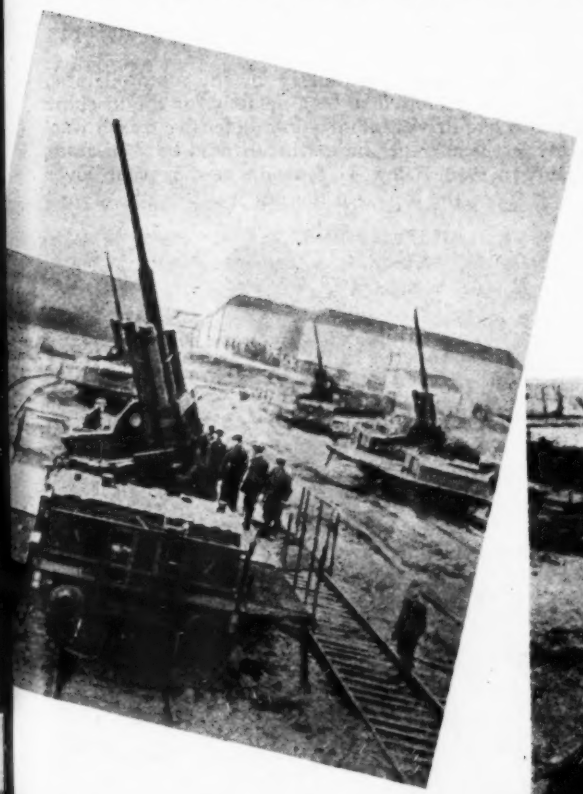




The Germans claim that thousands of heavy pill boxes such as this have been built along the Arctic, Atlantic, and Mediterranean coasts, from Norway by way of France to Greece.

This picture appeared in the Munich *Illustrated Press* under the heading "A bunker in the Atlantic Wall." German caption said it was the camouflaged exit of an army bunker.

The Hamburg *Illustrated* published this picture under the heading "Railway Antiaircraft Unit." Four heavy antiaircraft guns belong to a battery which is stationed on two rails at short intervals.



The German caption on this photo says that this is a bombproof petrol reservoir, built into the earth as a fuel dump for submarines, airplanes and tanks. Each one is supposed to contain several thousand gallons of fuel.

THE ROLE OF THE TANK

WHETHER considered tactically or strategically, the proper employment of tanks is probably as controversial a subject as can be found. There are, however, many tank theories which cannot be justified if scrutinized logically.

First, it is necessary to trace certain tactical and technical developments of war that created the demand for a tank or similar combat vehicle—in other words, to determine the purpose for which the tank was designed. This accomplished, it can then be shown where the employment of tanks in mass can be most effective. By such a process, some of the unsound doctrines or theories currently prevalent can be eliminated.

★8th Armored Division.

U. S. Signal Corps Photos

In spite of its crudity, its thin armor and motor defects, the early tank promised to be a nemesis for the machine gun, which had driven infantry into defensive trench warfare. At left is a French-built Rinault used by Americans in France in 1918. Below, U. S. troops as they went "over the top"—in the last war.

Basic Strategic Principles

Many military people are too prone to think that scientific inventions, which usually manifest themselves in some form of weapons, change the basic principles of war. While it is true that there is a periodic ascendency or decadence of various types of weapons which will tilt the balance of the scales to the advantage of one side or the other, this fact in no way alters the principles governing the employment of these weapons. The basic principles of war are immutable. Warfare has been and always will be a conflict between the offensive and the defensive. New inventions will often instill fresh power into the one or the other form of action. The offense always seeks to destroy the power of the defense, and in order to do so, naturally must

N THE WAR OF TODAY

by Brigadier General Edwin E. Schwien*

possess greater power—whether in cannon, maneuverability, or leadership.

The great masters of war have invariably applied correct principles in their successful operations, and these principles are the same whether applied by Hannibal, Alexander or Napoleon. An analysis of Napoleonic campaigns will reveal frequently recurring patterns that laid the cornerstone to success. First, there was usually a *rapid* and secret concentration. This almost invariable preliminary was often followed by the favorite Napoleonic maneuver from a central position designed to defeat opponents in detail. On the other hand, by means of *rapid,* secret marches, Napoleon would at times reverse the front by placing the bulk of his forces astride the enemy line of communication. He would then follow these strategic maneuvers by launching the tactical battle.

In either of these maneuvers, *rapidity* or *mobility* was the essence or key to success. Napoleon's first objective was to place his armies in a strategically advantageous position from which he could apply his superiority in leadership, weapons and morale in the tactical battle or battles to follow. The strategic stage set, the tactical battle was considered merely as a means to accomplish the final strategic victory. The speed or mobility which was so essential to Napoleonic maneuver was made possible by highly seasoned infantry and the mass employment of cavalry. The *strategic pursuit,* energetically executed with devastating and final results (until the failure at Ligny), was the principle rôle of the Napoleonic cavalry masses.

Exploitation

Until the advent of the gas engine in the 20th Century, strategic exploration as well as exploitation belonged exclusively to large masses of horse cavalry. The turning of a front, the exploitation of a break-through in order to operate against lines of communication, the thorough pursuit—all required a speed which simply did not exist in anything but cavalry.

Up until World War I, all military authorities agreed on the desirability of waging fast offensive wars. Schlieffen and Foch believed firmly in this same basic doctrine of the rapid offensive. Even as late as 1914, both the Germans and the French had large masses of cavalry available for strategic rôles. Motor transport was in its infancy. The first World War certainly did not indicate that the *rôle* of these cavalry masses had become obsolete.

If anything, the lessons of the latter part of World War I, in the summer and fall of 1918, clearly proved a very definite need for a powerful and fast exploitation force. At no time after the early stages of the war did such a force exist. Even had the numerous penetration attempts succeeded in effecting a break-through, there would have been nothing at hand to have turned the tactical victory into a strategic one by destroying the enemy's nerve centers well in rear of his armies. Nearly all of the large cavalry formations existing in 1914 had been turned into infantry before the end of the war. In other words, both sides lost sight of the fact that the break-through battle is merely a means to an end; that it is, in the final analysis, only a preliminary skirmish designed to place one force in advantageous juxtaposition relative to its opponent so that strategic maneuver will again be possible—so that rapidity, as envisaged by Napoleon, can again play its preponderant rôle in war.

There still exists and there always will exist the need for speed and maneuver in war, even though these factors were lost sight of in the latter stages of the first World War.

This résumé indicates that in the field of strategy a large exploitation force with great strategic mobility is absolutely necessary.

New Weapons and Tactical Doctrine

In the tactical field, on the other hand, the appearance of new weapons on the battlefield has usually affected the *application of tactical doctrine.*

From time immemorial, the successful issue of battle has depended upon the presence and delicate balancing of three organizational factors—mobility, fire power, and the actual physical seizure and determined occupation of strategic and tactical localities.

Very early in the history of warfare, these factors took the form of cavalry, artillery and infantry. The early manifestations of these branches appeared as knights, catapults and archers. Various technical inventions throughout the ages caused apparent changes in the ascendency or relative importance of the three. The early invention of armor and the mobility of the horse made the knight supreme on the battlefield of the Crusaders.

The invention of gun powder enabled the infantry to repel the shock action of the mounted and armored knight. Later, the invention of the machine gun and the parallel high development of the artillery gave to the infantry a defensive power heretofore unknown in the annals of war. This latter development reached its peak in World War I when the infantry, safely underground, and protected by huge masses of machine guns and artillery, successfully stood off an attack of ten-fold its

strength. The defensive power of infantry seemed definitely to be in the ascendency.

During the last three years of the last war, offensives on both sides were carried out with greatly increased fire power. Artillery seemed to be the only answer to the machine gun. Offensives requiring a laborious and tedious massing of matériel and munitions were undertaken. Enormous "groupments" of artillery were massed on narrow fronts for the purpose of literally blasting a path through enemy defensive resistance. In spite of meticulous care and methodical fire preparation, however, there always remained untouched isolated machine guns which always disclosed themselves after the lifting of the artillery preparation or the rolling-on of the barrage. These same surviving machine guns then proceeded to exact a terrific toll of the attacking infantry—a toll so heavy, in fact, that the attacking divisions were quickly disorganized long before a break-through had been attained.

The rhythmic pauses of the attack, designed for the forward displacement of supporting fire power, also served the defender well. They permitted him a breathing spell in which to reorganize his defenses, to bring up his reserves either for the occupation of *"bretellos"* or to switch positions, or for counterattack. The costly French offensives in Arbois and on the Somme, as well as the German holocaust of Verdun, furnished no answer to the problem of the attacker. The factor of fire power received a sudden impetus in the invention and first employment of toxic gas. This aid to the attack, however, was quickly overcome by the defense in its passive antidotes and in its own employment of this weapon.

During this epoch, all military thought, all inventive genius was directed toward the development of new weapons that might effectively neutralize the universally dreaded machine gun. It was not now a question of what to do in case a break-through was accomplished. The question at hand was *how* to *break through* the deep zone defense of the enemy. In addition to unbelievable masses of artillery, numerous accompanying guns, and other close support weapons, the attacking infantry obviously needed fire support that could stay right with it in its advance and beat down that omnipresent machine gun resistance.

Combat aviation was still a thing unknown, but even with its present efficacy, the dive bomber will never be able to remove in toto the menace of the concealed machine gun nest.

Introduction of the Tank

Sometime before the end of the war, the tank appeared on the battlefield. In spite of its crudity, its thin armor and motor defects, it promised to be the nemesis of the machine gun. Artillery barrages seemed unable to stop it, and it was vulnerable only to direct artillery fire. World War I then terminated and left the future capabilities and limitations of the tank to speculative theory. Two lessons, however—one tactical and the other strategical—were learned. Both of these had a direct bearing on possible future uses of the tank.

Tactical Lesson. The machine gun was still master of the tactical battlefield. The tank, still largely experimental, might be the answer to the machine gun. All authorities agreed that the purely frontal operation stood little chance of success without a definitely improved fire support aid to the infantry.

Strategic Lesson. There still existed the need for a rapid, mobile force capable of extending the tactical rupture or penetration into strategic victory by a deep and devastating exploitation. This could be accomplished only by a complete paralysis of the enemy communications. Only large cavalry masses were available for this rôle. They had been so used in the American Civil War. If the tank masters the machine gun and permits the break-through, then there must be available a fleet mobile force that can quickly reach a vital strategic objective and exploit the fruits of the tactical victory.

The postwar period, therefore, found the tank sharing honors with aviation in the speculative theories of military writers.

The British perceived and announced their conception of the tank as the logical successor of the horse. They visualized the metamorphosis of the cavalry exploitation masses into fleet tank masses. Unfortunately, their thought processes did not go beyond the theoretical stage. The French, on the other hand, constantly aware of their terrific war losses, sought primarily an answer to the machine gun. Their conception of the future capabilities of the tank was more or less limited to its use in support of the infantry on the tactical battlefield. To them it was a fire power weapon designed solely for the support of infantry. Even they, however, made a distinction between their *chars d'assault* (assault vehicle) and their pitifully inadequate *force mechanises.*

The Germans capitalized on both lessons. Not only did they recognize the tactical use on the battlefield of the tank versus the machine gun, but they also immediately perceived its capabilities in the more grand and vast strategic pattern.

The Tactical Rôle

First, a tank was needed to support the infantry attack. What characteristics must it have in this capacity? Obviously such a tank required fire power such as infantry cannon and plenty of machine guns. Next, it must have armor—plenty of armor, as it would be required to advance in the face of direct artillery fire (or antitank fire as at present). Did it not need speed? No, speed would serve only to separate it from its infantry, its *raison d'etre.* Besides, speed and heavy armor were not compatible. How should it be organized? Should it be placed under the Inspector of Cavalry or Infantry?

Obviously, the Germans reasoned, this heavy tank had

nothing in common with the cavalry. Its two principal characteristics were fire power and armor, neither of which was possessed by the cavalry. In reality it was the old infantry accompanying gun, much improved and armored. If used in mass—in "groupements"—for the support of a particular infantry operation it might well be given to the Inspector of Artillery. This would again, however, detach it from the immediate support of the infantry. By a logical process of elimination, therefore, it must belong to the infantry. "Give unto Caesar the things that are Caesar's." Let the infantry train it; let it work with infantry. Call it the *infantry tank*. It was given a clear, definite task versus the machine gun.

The Strategic Rôle

The Germans perceived the rôle of the tank not only in the tactical picture, but in the strategic picture as well. They understood how large masses of cavalry might have brought the first World War to a speedy conclusion had a break-through permitted their employment. And yet they knew that cavalry was fragile and delicate, that it was unarmored, that it lacked attack power. If it could reach vital communication centers without encountering resistance in its path thereto, it could make its action felt in the strategic picture. If, on the other hand, the intervention of enemy reserves blocked its route to its exploitation objective, it lacked the "punch," the fire power and shock action to push through. If only the cavalry mass could be implemented with fire power, with shock; if it could be made more impervious to enemy fire by means of armor—if all of this could be done, could it still retain its mobility, its speed? Would all of this be possible?

The answer to this question was given in the Polish and French campaigns. The problem was solved by the substitution of the light, fast tank for the horse. Even a mobile medium tank satisfactorily answered all requirements. Here, in this rôle, armor and fire power were and *still are* sublimated to mobility.

The result was the birth and organization of the panzer (armored) division. A new branch was created to administer and develop it—the Mobile Force. Under this branch was placed the horse cavalry. Their functions were fundamentally analogous. They belonged, therefore, under one titular head. The title of this force is indicative of its function, of its principal characteristic —*Mobile* Force. The principal function of the *gun* in the panzer division is to enable the latter to employ its *mobility*, so as to reach *quickly* a *vital strategic objective*.

If the division can reach this objective *without firing a shot*, so much the better, so much less the delay. If it were possible to stretch the imagination and visualize

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Left: **A heavy German tank crosses a Russian tank ditch during a recent attack on the Orel-Belgorod front. Here the tank is employed in its tactical rôle in support of infantry. The photo reached this country via Lisbon.**

Below: **German tanks and half-tracks, employed in their strategic rôle, advance on Soviet positions and fortifications in a counterthrust during the Orel-Belgorod fighting. Picture from Lisbon.**

Press Assn.

the armored division, substituted for its weaker strategic brother, the lightly armed and unarmored parachute corps, and dropped on the strategic objective – that would be perfect!

When the Germans massed the bulk of their forces on the Belgian Ardennes Front in April, 1940, and ruptured the French Meuse Front north of Sedan, their maneuver was an exact replica of the Napoleonic maneuver from a central position. The operation, in a great many respects, bore a close resemblance to Napoleon's first Italian Campaign. The penetration of the front first separated the British and part of the French from the main French forces. This initial strategic advantage was then followed by rapid action against the entrapped Belgian army and by *rapid* exploitation by the panzer corps toward the channel ports. In the meantime, the main French forces to the south were contained during the annihilation of the combined French and British forces to north. This part of the campaign accomplished, the Germans turned their attention to the south and quickly broke the Aisne and Somme fronts and exploited their success across the rear of the Maginot Line to the very frontier of Switzerland. In this operation, as well as in those previously carried out in Poland, the *strategical exploitation* was executed by tank or armored division. The tank replaced the horse and did an effective job in *exploitation!*

The German infantry divisions also had their tanks. But, with the realism peculiar to Europeans, the Germans appreciated the vast differences between the two types of employment.

Armored Mobility

The armored division, therefore, is a far cry from the infantry tank. The tank battalion of heavily armored, slow moving fortresses must be an organic part of the infantry division or else attached thereto. There is, or should be, absolutely no connection between the two, either in training, administration or functions. In the *infantry tank,* the *gun* is primary. Even armor is secondary. Mobility plays no part.

There should be no confusion on this clear-cut issue. The *mobile tank division* of this war, when operating in a suitable theater, is as important, if not more important, than the Napoleonic cavalry of the early 19th Century or the cavalry masses of our own Civil War. If the theater of operations at anytime is of such a nature as to preclude the employment of *tanks in mass,* then *the horse cavalry division must be employed for the strategical exploitation.*

When the tactical or strategical break-through occurs in Europe, the war will be shortened considerably if there are sufficient armored divisions to capitalize and exploit the rupture gained so painfully and at such a cost of lives by our infantry and its organic tanks.

There must be no failure to exploit!

* * *

Editor's Note: *To this summary might be added the strategic pattern of the Russians as demonstrated at Stalingrad and more recently at Taganrog, where the successfully employed cavalry and tanks in joint operations for the complete exploitation of an earlier break-through.* (*See pages 32 and 33.*)

At the Desert Training Center, this U. S. tank formation moves across the desert during maneuvers.
U. S. Signal Corps Photo

Principles of War Applied to Cavalry

by Major Benjamin D. Betts, Cavalry

MILITARY successes of history usually have been marked by adherence to certain principles of war —the principles of the *offensive*, of *surprise*, of *economy of force*, of *mass*, and of *simplicity*. These principles remain unchanged.

In the light of modern battle experience and by the use of the principles of war as a yardstick, what useful characteristics are found that are peculiar to cavalry? How can these characteristics be utilized best in modern war? How can they be accentuated further by organization, training, and equipment?

The Offensive

The first unit of measurement is the principle of the offensive. *Field Service Regulations* state, "Superior hostile numbers may be overcome through greater mobility, better armament and equipment, more effective fire, higher morale, and better leadership." This statement seems to contain the essential elements of successful offensive combat: mobility, arms and equipment, training, morale, and leadership.

Mobility? Cavalry has it—a fluid, individual mobility practically unhindered by terrain obstacles, time of day, or weather, unequaled in the combination of speed and flexibility by any other branch.

Morale? Morale is not substance. It is hard to evaluate and hard to compare. There is a certain *esprit* in cavalry that is hard to find elsewhere. Give a normal man a horse, a little confidence in his ability as a horseman, and he becomes "the man on horseback." This type of morale may be atavistic, but it does breed individual responsibility and initiative, and a sense of being the better man in personal combat. The morale factor is the spark that initiates the offensive. Cavalry has it.

Other cavalry essentials—arms and equipment, training, and leadership—are not in themselves basic characteristics, but may be changed or modified to accentuate basic characteristics.

Surprise

The second unit of measurement is the principle of surprise. The elements of surprise are secrecy, deception, novelty, and accomplishment of the impossible. The purpose of surprise is to demoralize the enemy and thus defeat him. How does cavalry measure up? Secrecy in modern warfare calls for night movement. March by night, hide by day. In this manner even large bodies of cavalry can move great distances with secrecy. The horseman's mobility in cross-country operation is less diminished at night than any other soldier's, in that his mount, sensing dangers before the rider, is an asset rather than a liability. In terrain or weather where the enemy is limited to ground observation, cavalry, taking full advantage of its cross-country mobility, may move with secrecy by day. This same mobility gives cavalry great powers of deception. The enemy normally overestimates the size of a force that moves on him unseen, strikes, moves off, and suddenly strikes again from a different direction. General Dovator's Russian cavalry, operating behind the German lines, was estimated as having up to thirty times its actual strength.

The very novelty of the tank was one of its most potent advantages when it came onto the battlefield in the last war. Its great power was its psychological effect. Today, against well trained troops, the tank has lost that power. The man on foot has built up a disdain for armor that enables him to stand coolly by his guns at its approach until he is assured that his weapon will have its maximum effect. How many men, on the other hand, are so familiar with horses as to retain their composure in the face of a mounted attack? The more mechanized and impersonal that war becomes, the greater will be the psychological power of horse cavalry.

Cavalry's final element of surprise is the accomplishment of the impossible. It seemed impossible to the Spanish Loyalists, holding the heights of Teruel, that any force could successfully storm their position, yet Monasterio's Moorish cavalry overran their position in a matter of seconds. In our own maneuvers, cavalry has shown what it could do in "impossible terrain." Surprise? Cavalry surely has its place.

Economy of Force

The third unit of measurement is economy of force. Since we are now engaged in total war, this principle can no longer be limited to the battlefield. Economy of force thus becomes *economy*—the utilization and management of resources. As a nation, we have a job to do and, in order to win the peace as well as the war, we must do this job with economy. Every tool used in war must show a profit; the end must justify the means. Every tool, whatever its classification, goes into battle showing a debit of labor and materials. While in the combat zone, maintenance is added to this debit. On the credit side may be entered the value of missions performed, enemy objectives gained. A careful analysis on the debit and credit basis should be made of *every* piece of matériel or equipment. Horse cavalry, as such, measures up. The horse goes into battle with a minimum on the debit side and with a maximum of potential credit.

It is inevitable that the horse is compared with his mechanical counterpart. In the complete acceptance of motorization and mechanization, one must accept two additional enemies—terrain and weather. These enemies immediately immobilize a large portion of potential forces—matériel, manufacturing facilities, and manpower. The challenges of terrain and weather must be accepted, and these natural enemies conquered, before

it is possible to strike the acknowledged human foes with full force. Even at this stage of development, it must be admitted that combat vehicles have a definite sensitivity to terrain and weather. The assurance of readily available horse cavalry in situations of difficult terrain and weather would eliminate these foes of mechanization to a large extent and release those forces now immobilized to aid in the defeat of the Axis.

The Principle of Mass

The word *mass* used in its military connection conjures up a picture of almost anything but horse cavalry in modern warfare. Years ago, horse cavalry fitted into the picture—drawn sabers, the charge, the thunder of galloping hooves, wave after wave of horsemen riding boot to boot. That was mass, but what of modern war? The roar of tanks—the might of armor—has stolen the rôle of the charge, has taken the color, the glory, the spectacular rôles that once belonged exclusively to cavalry. But does this mean the end of horse cavalry? We think not. Once the dinosaur was formidable, but today the mosquito is more dangerous.

Our conception of mass should not be limited to the picture given above. The mass to be concentrated at any given point may be a solid mass like a heavy steel wedge; a resilient, smothering mass like a huge featherbed; or a penetrating fluid mass. Each type is effective in warfare. The degree of effectiveness depends on the tactics and equipment of the enemy. The inherent characteristics of horse cavalry are those of the penetrating fluid mass. Given the terrain and weather that impose limitations on mechanization, horse cavalry can penetrate the enemy front lines like a swarm of gnats going through a screen door, organize in the enemy's rear areas, and strike rapid punishing blows at his rear installations and routes of communication to disrupt supply, to disorganize and demoralize him, and to draw combat troops out of the front lines.

Simplicity

It is taught that a simple plan is most successful. What are the elements that are most likely to cause complexity and misunderstanding? Such ample emphasis has been placed on tactical simplicity that there is a natural wariness of the elaborate tactical plan. On the other hand, the ever-increasing types of specialized equipment that supply modern combat troops have complicated the logistical plan. Today, in military as in civil life, specialization is the keynote. There is a danger in over-specialization, a danger that can lead to disaster. In an army of specialists, the loss of one man may seriously jeopardize the success of an operation.

To move and supply this type of army it is necessary not only to plan on a certain number of men and a certain amount of equipment, but also on specific men with specific qualifications and training, on specific missions, and on the timely supply and resupply of specialized expendable items. Is this simplicity of plan?

The basic characteristics of horse cavalry, on the other hand, both as to supply and employment, give the flexibility that facilitates simplicity of planning.

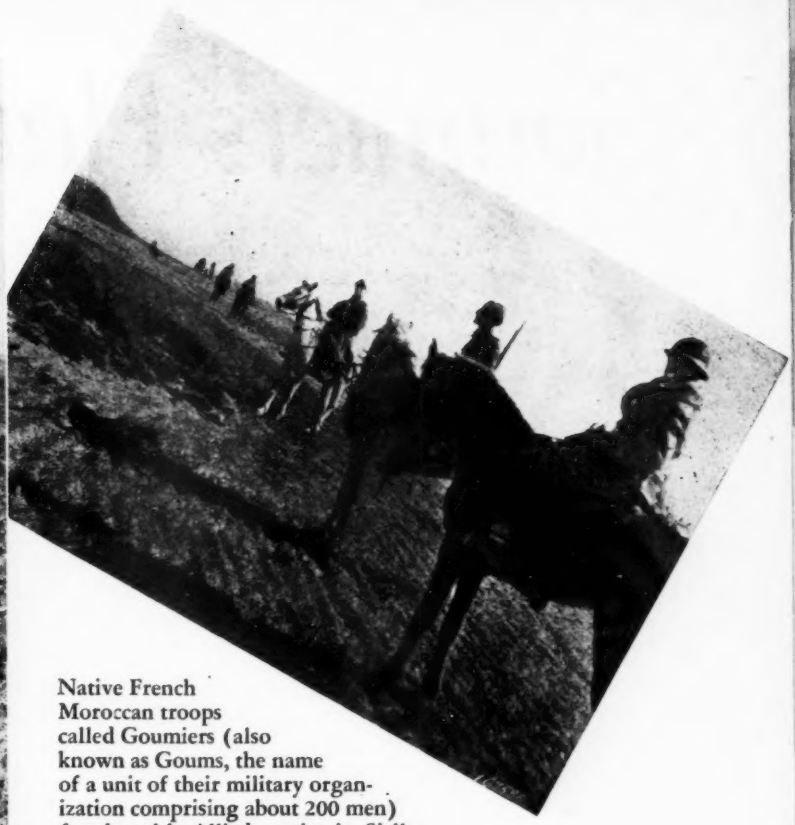
Using these standard basic principles, an analysis of horse cavalry shows certain characteristics inherent in the arm that can be used to great advantage in modern war. Cavalry furnishes an economical solution to the problem of cross-country mobility, a solution that gives the *individual* soldier the means to travel rapidly and comfortably over practically all types of terrain without perceptibly lessening his readiness for immediate action. Cavalry has the ability to disperse and thus present an unprofitable target to the enemy air and artillery without decreasing its mobility, and it can move with a maximum of secrecy in favorable terrain.

These characteristics perhaps are its most important assets, though others come readily to mind. Along with these capabilities, cavalry naturally has limitations. Its limitations have been enumerated often and are well known. A horseman presents a large target. He cannot creep and crawl and make use of small cover in a mounted approach. As soon as a mounted unit goes into dismounted action, from an eighth to a quarter of its manpower is lost to the commander in retaining some degree of mobility.

If horse cavalry is to regain its battle utility, it must go back to *basic* capabilities and limitations. These basic characteristics must be examined thoroughly, and training, organization, and equipment must be based on these fundamentals.

One approach to the larger problem is a consideration of cavalry logistics. Is it possible that modern cavalry bears a startling resemblance to the hunter who took too literally the slogan, "Be Prepared"? The hunter was out for a day of bird hunting, but before leaving camp started to pick up an item here and there to prepare for an emergency. Being endowed with an active imagination, the accumulation of these small emergency items made such a heavy load that he had to give up his mission. The danger of the woods made it a physical impossibility for a lone hunter to go out. The individual items of "emergency" equipment are not so heavy, but the accumulation easily becomes so great as to eliminate our greatest asset, mobility. Why not cut cavalry equipment to the *barest essentials* to carry out a specific mission and thus increase its mobility and efficiency? Why not follow the example of the successful hunter who leaves his heavy rifle in his base camp when out for birds, and his shotgun behind when out for bear?

No panacea is offered—only the plea to start with fundamentals, to suggest, improve, and correct—that one national asset, horse cavalry, may be used to the limit of its capabilities in achieving a common national goal. The day will never come when intelligent thought and planning will cease to show the way to a more efficient use of the means at hand. Today, *all* means must be used to insure victory.

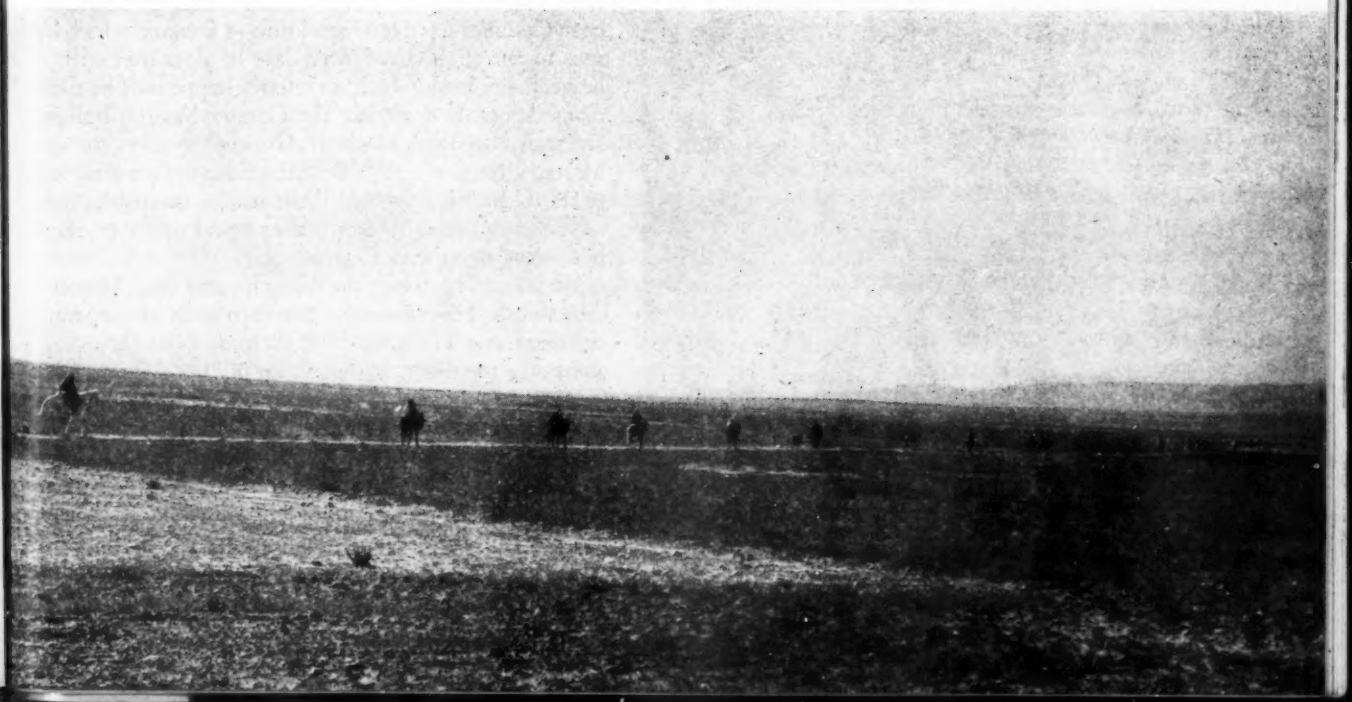


Native French Moroccan troops called Goumiers (also known as Goums, the name of a unit of their military organization comprising about 200 men) fought with Allied armies in Sicily.

French Moroccan Cavalry in Sicily

Here a unit of Goumiers, commanded by a French officer, heads for the hills beyond the Sicilian central plane soon after their landing July 14th. Their capture of Capizzi on the American flank preceded the important battle for Troina.

Signal Corps Photos



Goumiers Flanked U. S. To

Goumiers, the feared Berber fighting men of North Africa may be likened to an unorganized militia. They fight for the sheer love of fighting—and for the money they can earn by bearing arms for their friends against a common enemy. Under the French administration of Morocco, the Goumiers contracted to hire out their arms and abilities at stated intervals and upon official levy, as adjuncts to the French and French Colonial forces.

While the Goumiers fight under French officers, their methods are their own. They wear no uniform, rely largely upon cold steel for best results, and frequently supply their own arms. Working at night, they prefer to penetrate the edges of enemy-held territory by guerrilla tactics, at which they are most proficient.

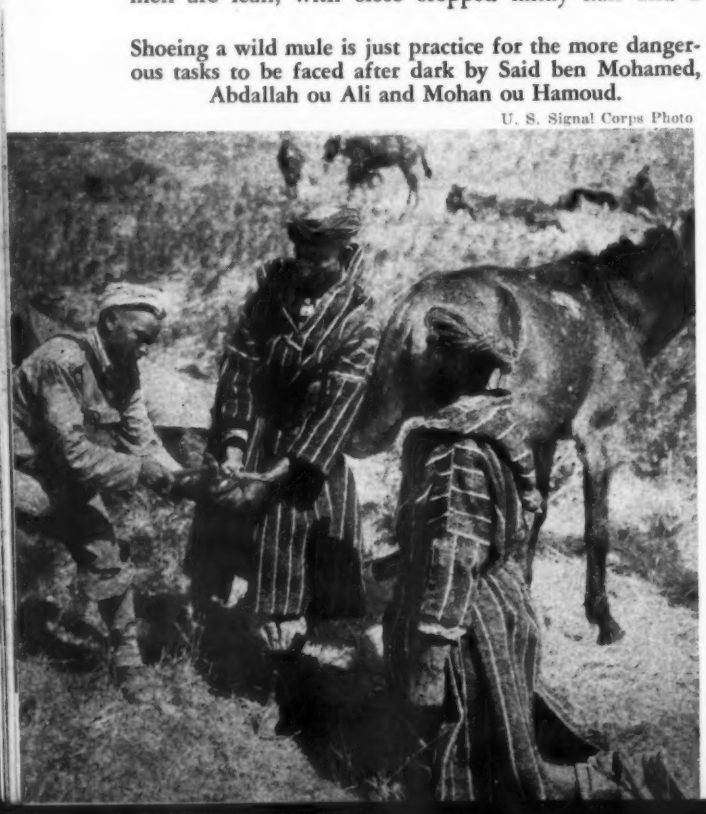
Goumiers are members of the white race, with deeply tanned faces, dark brown hair and brown or hazel eyes. While blondes among them are not unknown, they are extremely rare.

August 11, 1943—Fighting on the flank of U.S. troops, French Moroccan Goums have taken hill after hill in Sicily, sent back hundreds of German prisoners, and left many dead Jerries behind them. All of the Goums can handle French light machine guns, American tommy guns, and 81mm mortars—but with a bayonet and a bunch of grenades they will charge any position, anywhere.

The Goums are all Mohammedans in religion and Berber in origin. The Berbers are natives of North Africa; the Arabs are not. Unlike the Gurkhas (British Indian Troops), who look like a bunch of kids, these Goums look as tough as they really are. Most of the men are lean, with close cropped kinky hair and a braided pigtail. The pigtail is to give the Lord something to grab on to when he yanks them up to paradise, after they die.

Shoeing a wild mule is just practice for the more dangerous tasks to be faced after dark by Said ben Mohamed, Abdallah ou Ali and Mohan ou Hamoud.

U. S. Signal Corps Photo



Practically all of the Goums have beards. "They believe that a man who has not seen action and does not have a beard is not a man," explained a French lieutenant who had served with them for three years. "Goums are the best fighters I have seen anywhere," he said. "They just don't know when to quit."

On one occasion their objective was two hills just outside Misretta which were held by two companies of well entrenched Germans. Climbing as quietly as goats, the Goums got into position at night and hurled several dozen well aimed grenades, and then made a cold steel attack. When they were within 50 yards of the top, the Jerries opened up with machine guns. Instead of falling flat on their faces, hunting for cover, the Goums rushed straight in for some hand-to-hand fighting. For that, each Goumier has a ten inch knife—a *koumia*, which he uses to cut off heads. Now-a-days he does that only if he gets very mad, which sometimes happens. The Germans definitely don't like the Goums, but the Italians are scared to death of them. On one occasion, in the Mateur-Bizerte sectors, where the Goums were attached to the U.S. 9th Division, three Italian companies surrendered en masse as soon as they heard that the troops in front of them were Goums.

Back in 1912, when the French came into Morocco they absorbed the Goumiers into their army as a separate fighting force. The units, built up into *tabors*, the equivalent of a regiment, are made up of four Goums, 200 Goumiers to a Goum.

To every *tabor* of Goums there is a cavalry unit in which each man owns his own horse. All Goums fight on foot. Also attached to each section are several score mules to carry ammunition into terrain where jeeps cannot go. But the Goums like their jeeps. It makes a funny picture to see one of these Goumiers wearing his

Tops in Sicily*

wool sack uniform, tearing along in a jeep, his pigtail flying in the wind.

Besides their company commander, each Goum is staffed by one French officer and ten French noncommissioned officers. In addition, the Goums have their own native sergeants. They all eat the same food—C rations—which they do not particularly like. The Goums would much prefer a steady diet of bread and green tea, their national dish.

* * *

*With Allied Forces in Northern Sicily, August 9, 1943**—Goumiers have been slicing their way with American and Canadian troops through German- and Italian-held towns in Sicily ever since they landed at Licata on July 14th. One of their outstanding exploits, made preliminary to the American assault on the German stronghold at Troina, was the capture of Capizzi, about five miles northwest of Troina. (Editor: The capture of Troina has been called the decisive point in the conquest of Sicily.)

It was almost by accident that I found these hardy fighters at Capizzi and learned of their capture of the town. We had just passed through Nicosia, where batteries of 105s and 155s were systematically shelling the Germans at Troina, and a British correspondent, two American colleagues and I had chartered a jeep for the run over to Capizzi.

On the road to the town, littered with burning Axis trucks, Sicilian prisoners from a Palermo artillery regiment were waiting to be transported to the rear. Reaching Capizzi, we found a mêlée of prisoners being loaded in trucks and townspeople searching for relatives and friends among them. It was then that I recognized the magnificent horses and long capes, which are the familiar badge of the Goumiers. They were getting ready to move in half an hour.

A sergeant major of the Goumiers took time off from his work to give me an account of the fighting that had led to the fall of Capizzi. "While American artillery laid down a barrage," he said, "the cavalry advanced to the entrance of the town. This was about six o'clock in the evening on Friday, August 6th. The Germans still had two companies at full strength holding the defenses. The Goumiers rode in formation into the town, and the Germans attacked from both sides of the main street with machine guns, tommy guns and hand grenades. Instead of breaking under this cross-firing, as the Germans probably expected, the Moroccan fighters spread out to engage the Germans in hand-to-hand combat. The battle went on for five hours until eleven o'clock. The enemy, after having been swept from every defense line and after suffering heavy losses, finally withdrew.

"And you can say that our losses were very slight," added the sergeant major. "The cavalry has the *baraka* (all the luck). It is a fact that since we landed at Licata we have often been in some tight places, yet we always manage to get out of them with honor and almost without damage. Of course, we have to admit that the Americans' heavy artillery has something to do with our constant good luck." The officer smiled. "It pounds the enemy positions with remarkable accuracy and makes our job that much easier.

"The American officers are very friendly and the men are swell comrades," he continued. "Tell everybody that we are proud to be representing France in the Sicilian Campaign. This war isn't any fun. We have to fight hard and often, do not get more than two hours sleep a day, but the Goumiers are tough. This life of uninterrupted riding suits them, and their spirits are high."

With a wave of his hand, the sergeant major left me, promising we would meet again when the campaign was over.

U. S. Signal Corps Photo

Goumiers are well-known for their prowess with the knife. Shown here is Embarck ou Boujmaa, sharpening an American bayonet in preparation for his nightly foray. Note his American rifle and belt and French helmet.

*Text of a cable to The Free French Headquarters by Ralph A. Martins, *Stars and Stripes* Staff writer with American forces in Sicily.

Swift Thrust by Cavalry and Motor Units Captures Taganrog

Germans were reported getting out of Taganrog as Russian advances on Poltava, Krasnograd and Stalino (arrows) threatened to trap the Nazi forces in the south.

London (Tuesday), Aug. 31.—A vast encirclement movement in which Red army mechanized divisions and Cossack cavalry drove to the Azov Sea coast 28 miles west of Taganrog led to the fall of that Nazi anchor city and the freeing of more than 150 settlements yesterday, the Russians announced today.

Horsemen and motor-borne troops were reported to have knifed from Donetsko-Amvorisevka, 40 miles northwest of Taganrog, to Veselo-Voznesenskaya, 28 miles west of Taganrog, to fix a pincer jaw complementing that of the Russian lines east of the town. Then the pincers closed.

The Nazi stronghold of Stalino, 70 miles northwest of Taganrog, was threatened. The surprise smash left the entire German right wing in jeopardy and apparently crumbling.

The Russian communique, recorded here by the Soviet monitor from a Moscow broadcast, said remnants of the Taganrog garrison "are being wiped out."

Southwest of captured Kharkov, where the Russians are swinging southward in an apparent effort to encircle the railway juncture of Poltava, "our troops continued their offensive and captured several populated places," the Russian bulletin said.

Premier Josef Stalin announced the capture of Taganrog late in the day, after the Nazis already declared they had abandoned the town in another of their so-called "strategic withdrawals."

Stalin's special announcement said:

"As a result of fierce offensive engagements our troops routed the Taganrog grouping of Germans and today captured the town of Taganrog . . . As a result of the operation carried out, our troops have completely liberated the Rostov region from the German invaders."

The capture of Taganrog was the sixth milestone in the Russians' victorious summer offensive. It cracked the German Donets Basin line in the southern Ukraine and ended German dreams of Caucasian oil for their war machine.

Stalino Menaced

The Russian break-through threatened Stalino, German supply center 70 miles northwest of Taganrog and loosened the Nazi grip on the mines and wheatfields of the Donets Basin.

Taganrog is the last stop on the important rail line from Kharkov, which was cut a week ago by the Soviet capture of Donetsko Amvrosievka, 40 miles north of the port.

Although the Germans tried to write off the loss of the city with the explanation that they evacuated it to shorten their lines, Stalin's order of the day said the new victory was achieved "as a result of a bold maneuver by cavalry and mechanized formations which broke through into the rear of enemy troops."

The victory was another major gain in the powerful Soviet offensive that has swept through Orel, Belgorod, Karachev, Kharkov and Sevsk since it began July 12.

Taganrog was captured first by the Germans in November, 1941, but they fell back later that month. They captured it again in the summer of 1942 and held it despite the threat of the Soviet winter offensive this year when the Russians retook Rostov, 40 miles east of Taganrog.

Stalin's Order of the Day

AUGUST 30, 1943

Order of the Supreme Commander-in-Chief to Colonel General Tolbukhin:

As a result of violent battles the troops of the Southern Front routed the Germans' Taganrog group and today, August 30, have captured the town of Taganrog.

This new victory, won by our troops in the south, has been achieved as the result of a bold maneuver of *cavalry and mechanized formations* which broke through into the rear of the enemy troops. As a result of the operation they carried out, our troops completely liberated the Rostov Region from the German invaders.

In the fighting for the liberation of the Rostov Region and the town of Taganrog, the following troops distinguished themselves: The Kuban Cossacks—cavalrymen under Lieutenant General Kirichenko of the Guards; the tankists, defenders of Stalingrad, under Lieutenant General of Tank Troops of the Guards Tanaschishin; and the troops under Lieutenant General Tsvetaev, Lieutenant General Zakharov, Lieutenant General Gerasimenko and Lieutenant General Khomenko, and the fliers under Lieutenant General of Aviation Khryukin. . . .

To mark the liberation of the Rostov Region and the town of Taganrog, the name of "Taganrog" shall be conferred on the 130th Infantry Division, and the 416th Infantry Division composed of Azerbaijanians, and henceforward these Divisions shall be named:

The 130th Taganrog Infantry Division and the 416th Taganrog Infantry Division.

In honor of the victory at Taganrog, today, August 30th, at 7:30 p.m., the Capital of our motherland, Moscow, will salute our valiant troops which liberated the Rostov Region and the town of Taganrog—with 12 artillery salvos from 124 guns.

For splendid combat actions I express gratitude to all troops under your command which participated in the operation for the liberation of the Rostov Region and the town of Taganrog, and in the first place to:

The 130th Taganrog Infantry Division under Colonel Sychev, the 416th Taganrog Infantry Division under Colonel Syzranov, the 15th Mechanized Brigade under Major Tatirov, the 6th Tank Brigade of Guards under Lieutenant Colonel Shidkov, the 32nd Tank Brigade of Guards under Colonel Grinevich, the 4th Mechanized Brigade under Lieutenant Colonel Yepanshin, the 9th Kuban Cavalry Division of Guards under Major General Tutarinov, the 30th Cavalry Division under Major General Golovsky, the 31st Infantry Corps of Guards under Major General Utvenko, the Machine Gun-Artillery Battalions of Guards of the First Fortified Area under Colonel Sakseyev, the Second Artillery Division of Guards under Colonel Alexeyev, the 236th Fighter Air Division under Colonel Kudryashev, the 270th Bomber Air Division under Colonel Chuchev, the 9th Fighter Air Regiment of Guards under Lieutenant Colonel Morozov and the 31st Fighter Air Regiment of Guards under Major Yeremin.

Eternal glory to the heroes who fell in the struggle for the freedom of our motherland.

Death to the German occupationists!

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RED CAVALRY — *In Mounted Attack**

by Colonel Alexander Vasilyev

ACTION of cavalry in modern warfare is considerably hampered by large quantities of technical equipment on the battlefield, by numerous fortified works, and by powerful fire from all types of weapons. It would seem that in many cases cavalry could not be employed generally without risk of its being completely destroyed in its first attack. Experience has shown, however, that cavalry can act effectively even under adverse battle conditions.

Noteworthy in this connection is the operation performed by the Soviet guards cavalry regiment commanded by Colonel Shubin on a certain sector of the Soviet-German front.

It is a generally accepted Soviet opinion that a cavalry attack is effective only when launched by *large masses* of mounted formations against dispersed enemy troops. The action of this particular regiment, however, shows that small cavalry units also are quite capable of successful independent operations.

*By cable to THE CAVALRY JOURNAL, from War Department, U.S.S.R., Moscow.

"In the dead of the night, Colonel Shubin's regiment massed in the vicinity of the village on the river's northern bank without encountering any of the enemy."

Sovfoto

On one occasion the enemy was in possession of a group of villages situated on the north bank of the river. A Soviet cavalry division, stationed some twenty or twenty-five kilometers north of this area, was ordered to make a forced march to the river, attack, and drive the enemy southward. In conformity with these orders, Colonel Shubin's regiment was instructed to proceed southward and seize the heights at —. On his right flank another cavalry regiment moved forward with orders to attack simultaneously; the left flank was left uncovered. Some ten kilometers behind the two cavalry regiments there followed a tank regiment which was also to take part in the operations at the river.

In the dead of night, Colonel Shubin's regiment massed in the vicinity of the village on the river's northern bank without encountering any of the enemy. A little while later the commander received information from his scouts to the effect that the village was held by about two battalions of enemy infantry and several tanks, that the outskirts of the village were guarded by isolated sentries, and that there were no enemy troops in neighboring villages.

Colonel Shubin decided to attack the village by surprise simultaneously from north, west, and east, press the enemy to the river, and annihilate him. There was a considerable element of risk in this decision, but one of the characteristic features of cavalry action is not to lose minutes of time when in a most critical situation.

The main blow was to be delivered from the north by the regiment's second and third squadrons supported by a gun battery of twelve antitank rifles and two antitank guns, and two platoons of heavy machine guns. The first squadron and part of the third squadron, together with a platoon of machine guns, were to deal a supplementary blow from the west and east.

The bulk of the regiment's fire weapons were massed half a kilometer north of the village. These firing positions had been taken up secretly and noiselessly during the night, and by dawn all preparations for the attack had been completed. Meanwhile, reconnaissance scouts reported the disposition of the enemy's fire weapons and forces and indicated the most reliable approaches to the objectives of the attack. The squadron and platoon commanders carried out a brief reconnaissance and definitely decided on routes of action.

Promptly at the appointed time, 4:00 A.M., fire from weapons was opened at the village. It lasted ten minutes, and signs of panic were observed among the German garrison, which opened desultory fire in return. At a given signal at 4:10 o'clock, the whole regiment attacked simultaneously. The cavalry burst into the village, and in the ensuing hand-to-hand fight, the entire German garrison was annihilated.

By six o'clock the battle was over.

—FILLING A GAP*

by Captain Nikolai Pavlov

RED cavalry has won a definite place for itself in Soviet-German fighting.

The successes gained by Russian horse-mounted troops have completely refuted the old arguments that cavalry would be useless in modern warfare. Horsemen, on the other hand, have come to realize that cavalry action can be effective only if troopers are able to fight equally well on horseback and on foot.

Soviet cavalry frequently has proved a stumbling block for the enemy. One outstanding example of this occurred during the fighting in August of 1942. The Germans had concentrated two tank and three infantry divisions on a certain sector of the front. Their air power, delivering a surprise stroke, first succeeded in cutting the railroad which was the only supply line for Soviet troops operating in that area, and made it possible for enemy infantry to break through the Russian defenses. This created a gap in the defense lines, and German armored units drove quickly into the breach.

A Soviet cavalry formation was immediately brought up with orders to close the breach and re-form the lines.

The terrain upon which this battle took place was a hilly plain, fronted by copses and cut by a winding river 5 to 8 meters wide with marshy banks. The area of the cavalry concentration was protected by a thick wood.

The cavalry advance guard, consisting of a regiment of guards commanded by Colonel Malinov, was assigned the task of forcing the river crossing and routing the German troops holding the village 5 kilometers south of the river.

Immediately upon coming out of the woods, the cavalry regiment was subjected to fierce Luftwaffe attacks. Stukas, in flights of 20, bombed and machine gunned the cavalrymen, sometimes from an altitude as low as 200 meters.

Making use of the terrain folds, the cavalrymen proceeded forward at a fast pace in dispersed formations. Upon reaching the river, *they and their mounts started swimming across,* while the guns were ferried or drawn over the bridge. The Germans then turned their artillery and mortars at the cavalry force crossing the river and at the same time began moving their tanks forward from the village.

In spite of heavy fire, the regiment succeeded in crossing the river and establishing a bridgehead on the north bank. Colonel Malinov then dismounted his troops and ordered them to entrench the swells if possible in the short time that remained. The horses were taken to a safe spot on the northern bank.

Fifty German tanks and an infantry battalion came up and attacked the cavalry's right flank, held by Captain Konovalov's squadron. The German plan evidently was to crush Soviet resistance by a powerful artillery fire and air bombing and rout the cavalrymen by a tank pincer movement. The German tanks, followed closely by automatic riflemen, kept up a steady fire as they crawled towards the Soviet positions.

Sovfoto

"Upon reaching the river, they and their mounts started swimming across, while the guns were ferried or drawn over the bridge."

Captain Konovalov's cavalrymen, who were holding the strip along the river, held their fire. Then three yellow flares shot up from the enemy positions, and the tanks slowed down. Enemy planes in flights of six to nine machines appeared on the horizon. A moment later, three yellow flares were fired from Colonel Malinov's command post, and the German airmen, falling for this bait, circled and dropped bombs on their own tanks and infantry.

Withering fire from well camouflaged cavalry positions halted the German infantry, while supporting artillery rolled forward with their antitank guns firing over open sights. Several enemy tanks were put out of action. The few that did succeed in penetrating the Soviet positions were set afire by incendiary bottles and hand grenades. The enemy withdrew with heavy losses, but shortly afterward launched a series of fresh attacks with powerful air support.

Five hours had passed since the Germans had first assaulted the regiment's positions and the cavalrymen were being hard pressed by a numerically superior enemy force, supported by a large number of tanks and planes. The right flank which was still held by the 1st Squadron under Captain Konovalov, continued to battle the enemy infantry. In the center, German tanks managed to break through the Soviet lines and fight temporarily inside the defense zone, but despite their numerical superiority and strong air support, they were unable to reach the river's northern bank. Although greatly outnumbered, the cavalrymen held their dismounted positions until evening when the Germans withdrew to their initial positions.

The cavalry force, by the successful employment of their antitank platoons and supporting artillery, had crippled and destroyed a large number of German tanks and inflicted heavy losses during the five hour battle. By this action they successfully closed the gap and straightened the Soviet lines.

*By cable to THE CAVALRY JOURNAL, from War Department, U.S.S.R., Moscow.

New Battle Lessons on Ic

IT has been military usage from early times to put men on foot, or horseback, out in front of an Army to signal "enemy in sight." This duty has been entrusted to run-of-the-mill personnel. Such personnel, so long as ground reconnaissance remained a simple task, performed the duty as well as any other sort could. With the advent, however, of mechanization and long range weapons, ground reconnaissance has become a complicated and vital phase of miiltary art.

Theoretically, at least, we place those with the greatest military talents in command positions, but no commander, no matter how fine his military characteristics or genius, can intelligently dispose his troops, strategically or tactically, without proper information of the enemy.

It has been fully demonstrated that men of the proper caliber can accomplish remarkable results in dissipating the so-called fog of war—our present alibi for mistakes in the operation of military forces.

It is plain that if suitable reconnaissance personnel can lift the veil from the commander's eyes (and unsuitable personnel cannot do this) reconnaissance personnel should be selected with the same care and with as much regard for its particular employment, as is the high command personnel.

A man performing a reconnaissance mission should have first, the intelligence to enable him to grasp general and special situations in order that he may seek the information which the high command most needs for evaluating conditions confronting it; second, knowledge of terrain, maps, military organization, and weapons; third, the ability to exercise good judgment under stress; fourth, bold courage; and fifth, physical stamina. In short, officer or noncommissioned officer material of the highest type.

It must be remembered that reconnaissance duty is continuous and never relaxed, that operations often will be conducted by individuals or by individual reconnaissance vehicles, that all the men of a vehicle crew, or of a dismounted patrol, are subject to the unusual hazards involved, and above all, that the information returned by these vehicles is always essential and vital to the success of the whole operation. From these factors it is evident that all members of a reconnaissance vehicle crew must be capable men, each prepared to take over the duty of driver, radio operator, gunner, or leader.

A U. S. reconnaissance group moves forward in Tunisia.
U. S. Signal Corps Photo

Training

Lieutenant Colonel Hoy comments on his experience in Tunisia as follows:

"First and foremost, I am positive that all reconnaissance personnel should receive uniform basic training and that training must be specialized. A properly trained reconnaissance unit can do reconnaissance for a corps, an armored division, or an infantry division.

"All the reconnaissance training you and I ever received is fundamentally sound. There are certain fundamentals, however, that I would stress. First, your information must be accurate, complete, and quickly passed. To be accurate you must always know your location; get expert in using map, compass and protractor to establish your position and the enemy's. Never surmise, embellish or exaggerate; inaccurate information is dangerous. Truth is war's first casualty, but reconnaissance leaders must protect it on the battlefield and fight rumors, lies and exaggerations with the same enthusiasm and ability that they fight the enemy. I cannot stress this too much, for I have found out that it is always the reconnaissance battalion that has to go out and check all rumors and all exaggerated reports. Never believe a straggler and seldom believe a casualty. The former lies to explain his absence from the battlefield; the latter, especially if he has been knocked out of his vehicle, is rarely rational. To be complete, report everything; and if no movement is seen, report that. That is information.

"To pass information quickly, we must use a definite sequence—a simple code, and I have found that when things are hot, I want to talk directly to the platoon leader who is actually in contact. I had all platoons and company commanders on the same net, ran as high as 13 or 14 sets in net. It worked fine after we got it rigidly disciplined. The company commander did not lose any of his prerogatives. In fact, he became more of a battlefield C.O. His place when things are hot is out there helping his platoons. With all of us on the same net, he and I could go bouncing off to any point and still be in communication. I had a 193 in a peep; it was worth a million.

Reconnaissance

by Lieutenant Colonel Bruce Palmer, Jr.

Interspersed in these notes are quotations from Lieutenant Colonel Charles J. Hoy, who commanded a reconnaissance battalion throughout the Tunisian Campaign. Colonel Hoy states that his experience has been further confirmed by that of Lieutenant Colonel Lawson, 11th Hussars, who has had five years service in Africa and three years of combat as a reconnaissance leader.

"The reconnaissance personnel must be trained to handle their own mine sweeping. It's no mysterious science and most of the mines we have found were removed by us. Of course, the big areas were later swept by engineers, but our own paths were generally cleared by reconnaissance personnel.

"Reconnaissance personnel should attend a battle school and have mortars, artillery and antitank guns fired at them, not to make them braver, because I have my doubts about that, but to make them recognize the sound of the weapons. Everybody has a tendency to report anything bigger than a .22 caliber as an 88mm. I would not let my men report 88's, and we are the only ones who didn't. Let a mortar land, a mine explode, or an artillery shell land, and the report will be 88mm. This is dangerous, for if believed by higher command, it will denote German troops in an area which may or may not be so. (However, after we took Mateur I saw *beaucoup de* 88's). Now that we have so much of the enemy's equipment, all reconnaissance personnel should have an opportunity to see it. Don't put it in a motor park, put it out in a field.

"Last, but certainly not least, the best jobs that we have done have been where lieutenants with a small crew, through cunning and daring, get an OP deep in the enemy territory, or on his flank, and sit there for hours and report vital information. We used to say about such things, 'OK for maneuvers, but not in war.' This is not so. As an example, I had a lieutenant and three men go up on an OP about 4-5000 yards in enemy territory, stay there for two days with a radio set dismounted from a peep, and send back the information necessary."

Tactics and Technique

Mechanized reconnaissance vehicles, when not employed in reconnaissance in force, should be used in small groups for the following reasons:

1. Larger groups are often tempted to fight, and unless such fighting is merely to protect themselves, or to escape, they are losing sight of their mission while so engaged.
2. A wider, deeper, and more closely knit reconnaissance may be effected by the employment of many small groups than by the use of relatively fewer large groups.
3. Mechanized reconnaissance duty is arduous and hazardous and necessitates frequent relief. Such relief is normally possible where small groups are sent out, and becomes proportionately difficult if the groups are strengthened.
4. Vehicles in a small group can operate in support of one another on a mission at considerable distances apart by simply watching what the others do. In a larger group, orders must be exchanged on every change of purpose of the leader.

Colonel Hoy comments further:

"Beware of that misused word 'fire power.' Don't tie a reconnaissance unit down with tanks, 81mm mortars, 37 SP guns, because it makes the unit too unweildy, and few officers can take care of all those additions and still do the job of gathering information. Understand me, I am in complete accord with General Scott's statement that 'Reconnaissance capable of only observation is not worth the road space it takes.' The reconnaissance unit should have sufficient fire power, but too much is as bad as too little. Anyone in a reconnaissance unit who is not primarily a reconnaissance man must be there for a very good reason. If I get the armored car, then I don't want the light tank.

"For clarity, I give you my recommended organization at this time. Reconnaissance battalion of 3 reconnaissance companies and Hq. company; reconnaissance company to have 3 platoons and Hq. platoon; each platoon to have 2 sections. The section is the basic unit. Each section should have 2 armored cars and 3 peeps; the first section should have an assault gun; both sections should be commanded by an officer. We have tried it out by using the scout car in place of the armored car. We are sold on the assault gun. Our companies fired it more than anyone in North Africa. It gives us poise and confidence."

There is no theorizing in all this. In a command on the field which does not have a *professional* reconnaissance, the movement in a given direction is habitually a blind groping, or halting at a given place because of ignorance of the tactical situation. *Capable* reconnaissance personnel can return a flood of information that is remarkable—information that is never superfluous and is always valuable, and that enables the commander to know where he is going and why. If the Army invests only a small part of its most efficient personnel in reconnaissance units, its dividends in the form of increased fighting efficiency will be incalculable.

General Hawkins' Notes

Lessons from a Tank Battalion Commander in Tunisia

IN continuation of the subject of my Notes in the July-August issue of The Cavalry Journal, which were devoted to lessons from the Tunisian Campaign based on the observations of an experienced commander there, I now give in substance some ideas of a very distinguished tank battalion commander on principles developed or demonstrated in battle during the latter part of the same campaign.

1. Tank battalion commanders must fight with their tank tops open and their heads out. They can see to direct the fight in no other way. Although they may have to pull in their heads when things get too hot, this is usually necessary for only a few minutes at a time. The open top is good for the morale of the rest of the crew, too.

2. Talk about teaching soldiers to hate the enemy is all nonsense. The men hate quickly enough in battle, and between battles it does not matter.

3. Emphasize physical conditioning. It is necessary for many important purposes—marching, advancing to attack, using cover while advancing, digging in or entrenching a newly won position immediately so as to repulse enemy counterattacks, and resistance to all sorts of fatigue including loss of sleep.

4. Battle orientation, so that NCO's know the mission of their units, is important.

5. Discipline cannot be taught on the battlefield. It must be taught in training. Obedience to orders seems a simple thing to the average mind, but in campaigns an officer, or soldier, is often tempted strongly to disobey in small ways or only slightly, and the sum of these disobediences sometimes amounts to a great failure as a whole. Disobedience must be punished immediately and without fail.

6. Although men must dig slit trenches frequently and must get into them when necessary, they must not be allowed to halt and take to cover when they should be advancing. Many artillery shells can hit within fifty yards of troops without doing any damage. It is right to duck when you hear a shell coming, but not to let yourself be pinned to the ground indefinitely because of artillery fire. Men should be made to understand that a few shells dropping near by are not going to destroy a whole unit.

Of course when holding a fixed position, men should take advantage of cover or trenches, provided they are able to fire upon any advancing enemy at the right time. An advancing battalion should take to cover when the enemy artillery fire becomes very hot, but that is always for only a few moments. When the fire slackens a little, the battalion should be up and again advancing.

7. When holding a rise of the ground or hill against an enemy attack, dig your trenches for your main forces on the reverse military crest, even though that shortens your field of fire. Then, after the enemy artillery preparation fire is over, and his infantry advances over the top of the crest you can mow him down at short range with your rifles and machine guns. On the other hand, when you are attacking, have your artillery preparation fire made by air bursts showered on the forward and reverse slopes. Your artillery, when firing over your advancing tanks, should use ground bursts to keep the enemy antitank gunners away from their guns.

8. On your division front, concentrate your artillery fire on one point of attack at a time. Thus, let your whole artillery support one battalion of infantry or tanks at a time; and when this battalion has driven in, switch your artillery fire upon another enemy front which is being attacked by another battalion. Space the attacks of the various division units so that this can be done. Otherwise, attack on only one narrow front and with great depth of deployment—practically a column of battalions.

9. Tank battalions, as well as infantry battalions, should practice defensive bivouac formations — outguards, machine guns laid for final protective bands, and cannon in tanks, or otherwise pointed in directions toward which they may have to fire point-blank against enemy night attacks. Grenades for close fighting.

10. Move your bivouac a little before dawn so as not to be caught by fire of the enemy who may have spotted your position and be awaiting dawn to fire on you. Another advantage in moving before dawn is that when moving slowly forward, the battalion commander can more easily arrange the elements of his command in the order that he desires than he can when halted or under heavy fire.

11. Don't try to move infantry in trucks or armored carriers in daylight without powerful air cover!

12. Practice scrupulous economy of tank ammunition. If tanks are to fire preparatory fire before the jump off, have the ammunition stacked beforehand so that the tanks will not have to use any of the ammunition of their load for that purpose.

13. Each tank platoon should be equipped with necessary instruments to fire indirect fire missions as a battery.

14. A tank battalion, an infantry battalion, and a cavalry squadron, all should have battle drill in which brief commands are issued and understood by all. These should be incorporated in Drill Regulations and provide a language common to all members of a command. Otherwise, it becomes necessary to issue instructions involving many words for each battle movement. Such lengthy instructions mean loss of time at a most critical moment and are often impossible to give under fire and difficult to understand thoroughly even if given. These "commands" can be given by radio, flag signals, arm signals and voice, or by a combination of these means.

Reconnaissance

ALTHOUGH much has been written on the subject of reconnaissance, many of these writings have been from a theoretical standpoint rather than from personal experience or even from careful study of the experience of others.

A very detailed narrative of all the experiences of an individual officer as commander of a small patrol which has had an extended experience of duty on reconnaissance in actual warfare would be worth its weight in gold. The same may be said of an account by an officer who has had command of a large force that has executed important missions of reconnaissance.

Such narratives, however, are rarely written and seldom available. Even when available, it too often happens that the narrator has left out many things or else that he lacked the ability for clear description and the imagination to understand the necessity for details—both so fascinating and instructive to the earnest reader. Of necessity we have to pick up bits of information from the personal experiences of others, and finally put it all together to make a pattern. If we form the habit of doing this, we can collect a lot of items which, taken together, make a fairly good picture.

The recent campaign in Tunisia should afford opportunity for certain officers to contribute much of value about reconnaissance. It must be remembered, however, that the lessons learned on this subject were learned on a very special terrain. Not all of these lessons may be applicable to other kinds of terrain.

The terrain of Tunisia is open—bare mountains, bare hills, both broad and narrow valleys without brush or woods or cover of any kind, except as may be found in gullies, ridges or reverse slopes of hills. Except when it is raining one can see clearly for long distances. Such terrain is ideal for vehicular and air reconnaissance, although motor vehicles can be ambushed even in that open country. Lessons learned in Tunisia, therefore, may be very misleading in a country like France where the hills are covered with trees and the valleys have patches of woods and some underbrush and small creeks. Reconnaissance in this latter kind of country is best done by cavalry.

Improper Reconnaissance Methods

When any force of troops is sent on a mission of reconnaissance it should be in hand and under immediate control.

The old theoretical idea, taught for so many years, that the reconnaissance force or group should be divided into its spearate subordinate units and spread out over the area to be reconnoitered, is wrong.

With this false idea in mind, a brigade of troops would proceeds as follows: The area would be divided into two zones. The brigade commander would hold a small reserve under his personal control and then assign a regiment to each zone. Each regiment, holding out a small reserve, would divide its zone into two zones with a squadron or battalion assigned to each of these two zones. Similarly the battalion or squadron commander would divide his zone into two or more zones and assign a company or troop to each of these zones. Then a number of patrols would be sent out from each of these troop zones.

The whole command would be dispersed over the whole area and would have no real strength anywhere to break through the enemy screen of outposts or covering forces, or to meet any strong force of the enemy sent out on a similar mission. Thus the number of patrols became extravagant and dissipated the strength of every subordinate unit in the brigade to an alarming degree.

The idea seemed to be that the leaders of a few of these small patrols would obtain information that could be sent back to the army commander. But it never seemed to occur to any of these theorists that an army commander had sent out the brigade commander to obtain information which the latter himself had obtained and verified by various reliable means. Certainly an army commander was not going to act upon information obtained only by a few corporals or a few lieutenants. He wanted a report from the brigade commander himself. But, with this wide dispersion, how could the brigade commander verify the reports sent in from small patrols? Such information had to go through too many heads before it got to the brigade commander. It was all very well to say that the Army

G-2 could take all these various reports and evaluate them, but that was sheer nonsense.

Regardless of the value of information obtained by this method, it took too long to get it back. This whole system failed in every maneuver or actual campaign.

A Practical Reconnaissance Method

The only true and practical method is as follows: The brigade commander keeps his force in hand and ready to fight. He sends out numerous small patrols with orders or instructions direct from himself. These patrols are his feelers, like the long hairs of a cat's whiskers. When they send in information direct to the brigade commander, he is thus able to judge the direction that his brigade must take to break through the enemy screen with his whole force, and find out for himself some important information that he can guarantee to his army chief as correct.

Once the brigade commander has found out something of the strength and location of the enemy, he remains in contact and never loses this contact unless the army commander relieves him of this duty for some other mission.

The mission of screening is performed in the same way—by keeping the command in hand ready to oppose an enemy reconnoitering force. The possible infiltration of a few small enemy patrols is of little importance. The enemy cannot obtain enough important information in that way. He can obtain it only by intruding a sizable force into contact with our forces as already described.

Small reconnaissance patrols may, indeed, be sent out by the army commander himself under some circumstances. In fact, every commander of a force of any size whatever, may use small patrols to get the information he wants for himself. But if he himself is charged with a mission of reconnaissance he cannot use this unverified information to send back to his chief.

Training Patrols

The training of patrols is difficult because there are so many of them to train, and it requires such a large extent of varied terrain. This training can be accomplished satisfactorily only by dividing it into three phases.

First, a certain amount of indoor training is necessary to explain to the men what kind of information may be required. Map reading and little problems on the map are necessary. Resection or the location on the map of one's actual position on the ground is very important.

Second, the patrol must be drilled to take somewhat variable formations at the will of the leader in order to use properly the different kinds of terrain that may have to be traversed. Also, from any formation the patrol must learn to obey the commands or signals of the leader for a certain number of purposes. Those are as follows: To take cover, to the front, right, rear or left; to retreat rapidly without bunching but by a method of dispersion so as not to offer good targets to an enemy suddenly encountered in force; to move forward rapidly to attack the enemy suddenly and by surprise.

The patrol leader must practice his patrol in doing these things by well understood commands or signals.

Third, the patrol is taken out on the roads and across country and given different situations to meet and solve. This is best done by the commander of a company or troop by forming and instructing a patrol made up of the leaders of all the squads or sections or platoons which may have to function as patrols in maneuvers or actual service. After training such a patrol, the various individual members will be able to take over the training of their own units.

Types of Patrols

When a patrol is sent out on a mission of reconnaissance, there are certain things the patrol leader and members must be told. They will not be recounted here because they are prescribed in the regulations. It is desired, however, to warn the officers issuing instructions not to charge the patrol leader and his men with too many objectives—too many kinds of information desired. Give them a few simple orders as to what information is desired in particular, and leave it to the patrol leader to bring back certain other information that may have come to him accidentally or incidentally in the course of his operations.

Voluminous textbooks can be and have been written on the subjects of reconnaissance, security, and the different kinds of patrols used for these difierent purposes. For example, combat patrols and covering detachments for security purposes are very essential, and these security elements need a great lot of practical instruction. Combat patrols need as much instruction as reconnaissance patrols. Also important are liaison patrols to keep contact between elements of a command. Instruction in all of these three types of patrols can be and should be given to the same squads, sections and platoons, so that any one of these units can perform any of these different classes of patrolling that may be required.

The efficient conduct of a combat patrol is just as difficult as that of a reconnaissance patrol, and, indeed, to avoid surprise by flank or rear attack by the enemy, is perhaps even more important. Yet, instruction in this important duty is generally neglected. The modern battle of maneuver is very swift, and efficient combat patrolling is very vital. A Russian officer writes that there is no excuse for an armored force to be caught by an enemy attack on its flank or rear if it has properly trained combat patrols and knows how to use them. But there is the rub.

The same three-phase training indicated herein for reconnaissance patrols is recommended for combat patrols.

Editorial Comment

Sicily—First Battle for Europe

On July 10, 1943, the greatest invasion armada in all history successfully landed two Allied armies on the shores of Sicily. Masterfully planned and executed, this tremendous land-sea-air operation was protected by swarms of airplanes and units from the navies of Great Britain, the United States, Poland, Greece, the Netherlands, and India. Aviators returning from bombing missions over Sicily described the Mediterranean as "black with boats that stretched for more than forty miles."

The Allied invasion force, under the supreme command of General Eisenhower with General Alexander as his deputy, consisted of the British Eighth Army under General Montgomery, the U. S. Seventh Army under General Patton, and a Canadian division which had joined the invasion fleet at its North African base. The grand strategy for the invasion of Sicily was laid at Casablanca last spring. Details of tactical coördination were worked out and perfected from lessons learned during the Tunisian Campaign.

Because of the speed with which Sicily was conquered (from beginning to end— 38 days) it is easy to overlook many of the important factors involved. They fall into two groups—Allied accomplishments and the strength of enemy resistance:

1. An enemy shore, proclaimed by the Axis as a fortified part of the *Fortress Europa,* was successfully invaded and, as a tribute to Allied air and naval superiority, only six of the 3,000 vessels were lost (as announced August 30).

2. Air, land, and sea forces were coördinated in a manner never before employed in warfare.

Naval guns, in addition to their normal missions of combating enemy sea power and transporting troops, shelled tanks at Gela, blasted a path for the Eighth Army into Augusta, and paced both the north coast and east coast advances.

Air power, after destroying enemy airfields and neutralizing enemy air strength (most of which was a pre-invasion job), turned to the assistance of the ground troops by blasting enemy infantry and dugouts, especially in the northeast mountain section.

Following the surrender of Axis troops in Tunisia, the Strategic Command of the Allied Air Forces had bombed and destroyed principal airdromes, communications, and key installations in order to weaken the enemy's resistance once Allied ground troops were ready for invasion. By the time of the invasion, therefore, enemy air power had been largely neutralized. Many Axis hangars lay wrecked, and the majority of planes were too severely damaged to rise. As the invasion itself got underway, the *Strategic Air Force* moved up to bomb targets on the Italian mainland in a softening-up preparation for the future invasion of Italy; and the *Tactical Air Force* moved in to work in close harmony with ground troops in Sicily. This was another successful demonstration of the new air tactics, applied so effectively during the last two months of the fighting in Tunisia.

3. The Blitz across the middle of Sicily from Agrigento to Palermo was a fast maneuver, cutting the island's defenses so quickly that the brilliance of the maneuver itself is overlooked in the apparent ease of accomplishment. (Lieutenant General George S. Patton, Jr. commanded the American Seventh Army; Major General Geoffrey Keyes commanded the force that made the march; Major General Lucien Truscott commanded the 3d Infantry Division; and Major General Hugh J. Gaffey commanded the 2d Armored Division.)

4. The difficult mountain terrain and the enemy's extensive use of demolitions in his retreat from the Mt. Etna line to Messina seriously impeded the Allied pursuit. The dynamited hillsides and destroyed roads blocked motor traffic for many miles. Wherever available, Sicilian mules were employed as pack animals for the transport of guns and ammunition to difficult mountain positions.

5. Although Allied losses were comparatively small, the Sicilian operation was far from a runaway routing of the enemy. Many Italians appeared to have lost all heart for the war; a few were strong fighters and hard to beat, but not as hard as the Germans. German troops were well fed, well equipped, and fought hard and bitterly. The German army as yet has shown no signs of cracking or weakening. Instead, it seems to have determined to conserve men and machines rather than expend them on defending territory considered too costly.

Sicily—the first battle for Europe—was merely "the beginning of the end."

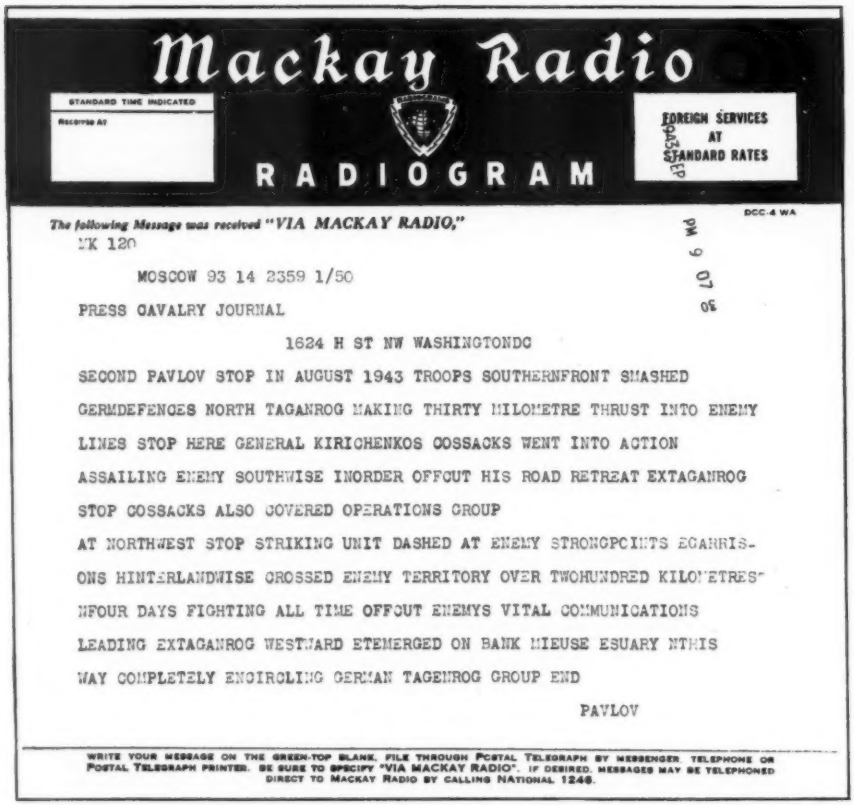
* * *

Stalin's Cavalry-Tank-Infantry Team

A careful analysis of the Soviet offensive during this past summer reveals the undisputed fact that the Red Army is taking advantage of its large force of cavalry to exploit its many successes. That fact in itself is significant because of the numerous opportunities that cavalry has had while being employed as a division or corps acting independently.

Even more important, from our standpoint, is the development of the Soviet cavalry-tank-mechanized infantry team. Coördinated by the high command, the operations of these combined forces have culminated in

by Cable from Moscow to The Cavalry Journal



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PRESS CAVALRY JOURNAL

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SECOND PAVLOV STOP IN AUGUST 1943 TROOPS SOUTHERNFRONT SMASHED GERMDEFENCES NORTH TAGANROG MAKING THIRTY MILOMETRE THRUST INTO ENEMY LINES STOP HERE GENERAL KIRICHENKOS COSSACKS WENT INTO ACTION ASSAILING ENEMY SOUTHWISE INORDER OFFOUT HIS ROAD RETREAT EXTAGANROG STOP COSSACKS ALSO COVERED OPERATIONS GROUP AT NORTHWEST STOP STRIKING UNIT DASHED AT ENEMY STRONGPOINTS EGARRIS-ONS HINTERLANDWISE CROSSED ENEMY TERRITORY OVER TWOHUNDRED KILOMETRES' NFOUR DAYS FIGHTING ALL TIME OFFOUT ENEMYS VITAL COMMUNICATIONS LEADING EXTAGANROG WESTWARD ETEMERGED ON BANK MIEUSE ESUARY NTHIS WAY COMPLETELY ENGIRCLING GERMAN TAGENROG GROUP END

PAVLOV

PM 9 07

WRITE YOUR MESSAGE ON THE GREEN-TOP BLANK. FILE THROUGH POSTAL TELEGRAPH BY MESSENGER, TELEPHONE OR POSTAL TELEGRAPH PRINTER. BE SURE TO SPECIFY "VIA MACKAY RADIO". IF DESIRED, MESSAGES MAY BE TELEPHONED DIRECT TO MACKAY RADIO BY CALLING NATIONAL 1248.

SEPTEMBER 15, 1943

In August 1943, Soviet troops on the southern front smashed German defenses north of Taganrog and made a thrust of about eighteen miles into the enemy's lines. At this point General Kirichenko's Cossacks went into action and attacked the enemy in the southern sector in order to cut off his road of retreat from Taganrog. Cossacks also covered the operations of the group in the northwest. Striking at enemy strong points and rear garrisons, one unit crossed more than 125 miles of enemy territory in four days of fighting. They cut off the enemy's vital communications leading from Taganrog westward and, emerging on the bank of the Mieuse River estuary, completely encircled the German troops in Taganrog.

brilliant victories for the Red Army and disaster to the German forces opposing them. From Orel, Belgorod, Kharkov, Taganrog, and now (as this is written) from Mariupol, communiques have been filled with accounts of the dominance of these combined arms on the battlefield.

As a Russian military expert stated to us a short time ago, "This is the result of months and months of careful planning and hard incessant training by military strategists who had the courage of their convictions." These Red Army leaders have welded arms of different strategic mobility into a strong offensive combat team that is taking its place in battle in such a manner as to utilize the maximum capabilities and minimize the limitations of each individual arm.

Some military men have long argued that the vast difference in mobility between the air, the tank, and the horse preclude their combined use as a hard hitting weapon of attack. But Stalin, in his "Order of the Day," frequently mentions the exploits of this combination in glowing terms. When conferring battle honors, he gives it much credit for the outstanding successes of the Red Army during the past few months.

Now that the value of the combined employment of the oldest and the newest of combat arms has been proven on the field of battle beyond any doubt, is it not worthy of emulation?

Bombing and German Morale—Dr. Goebbels' Admission

"Press policy cannot take into account only the actual international and military situation.

"It must, in contrast to England, take into consideration the mentality of the German nation.

"The power of endurance of the German nation is not as great as that of the British nation. . . ."

"Enemy air attacks on German cities will, in forthcoming months, create a most decisive problem in internal politics. It will become a decisive problem of German war policy."—(*From instructions by Dr. Goebbels to Nazi editors on how to counteract the war weariness and discouragement of the German people. Sept. 23, 1942.*)

"Nothing will turn us from our endeavor and intention to accomplish the complete destruction of our foes by bombing from the air in addition to all other methods.

"Loud and lamentable outcries are being made by the enemy now that this form of warfare, by which they thought to obtain the mastery of the world, has turned markedly to their disadvantage.

"These outcries will only be regarded by us as a very satisfactory proof of the growing efficiency of our attack."—Mr. Churchill, June 8.—*In Perspective*, June 1943.

Please Send Us Your Back Issues!

Certain issues of The CAVALRY JOURNAL have become "out of print." If you have such an issue that you have finished reading, will you send it back to The CAVALRY JOURNAL office, so that it can be placed with some library or organization that will put it to *multiple* use?

Following is a letter from the *Imperial War Museum*, London:

My dear Colonel,

I am pleased to inform you that we have received the (requested) copies of The CAVALRY JOURNAL with the exception of the *March-April, 1942, issue.*

We are very pleased indeed to be able to add this valuable publication to our collection of similar journals, and we very much appreciate your kindness in so generously responding to our request. We look forward with much interest to receiving the future issues of your journal which, I can assure you, will be preserved carefully in our archives for the benefit of future students of the war.

May I suggest that a paragraph in the journal itself may result in one of your readers presenting us with a copy of the missing number and so completing our file?

Yours sincerely,

LIBRARIAN.

Back issues particularly desired are:

January-February, 1941
March-April, 1941
March-April, 1942
May-June, 1942
July-August, 1942
September-October, 1942

Conservation of Supplies and Equipment

A sobering report from an active theater of operations states that some American soldier drivers, if they experienced trouble with their vehicle's carburetor, immediately demanded a new carburetor, or threw away the old one, even though the only trouble with the old one might have been malfunction of one small part. Also, if any vehicle was left along the roadside and not placed under guard, it was immediately "cannibalized" by every passer-by.

Our men are not vicious in intent, although the results of this waste are vicious. But the American soldier who fails to keep his equipment in good repair, who robs a vehicle of a tool instead of keeping an eagle eye on his own tools and making them last, is being dangerously careless.

It is possible that the fallacy of "present plenty" makes these men decide that "there's more where that carburetor came from." Of course there's more! But at what a cost of scarce manpower, scarcer metals, already overburdened shipping space, and prodigious labor is that stock supply kept up! It is a difficult thing to visualize, and that is the whole trouble. The men see only the quantities of new carburetors, not the supply line that lies behind them.

Suppose as a hypothetical case, a lone American soldier is wandering over the stricken countryside of Greece. On every hand he would see the emaciated bodies of men, women, and of children too weak to cry any more—walking, stumbling ghosts of human beings. Then suppose he were admitted to a Red Cross storehouse, and saw there hundreds of sacks of grain, bottles of olive oil, and other food. Would he feel right about sitting down and helping himself to a lot of food, simply because he was in the midst of plenty?

The comparison is not fantastic. The soldier would know instinctively that every item in that storehouse was destined to fill a certain need. In the same way, every engine part, every tool and every piece of equipment produced by industry must fill a certain need. Their value to us is not calculable, because money will no longer buy them. Consequently, *nothing must be thrown away. Nothing must be lost. Nothing must be improperly used.*

The officers of our Army must impress upon their men as often and as seriously as possible, the fact that waste will make our situation even more critical.

The soldier of the United States Army is famous all over the world for his "tinkering" skill. He is mechanically minded. What he must now realize is that a good mechanic is a thrifty mechanic; he respects his machinery and tools, and makes them last. And by such careful practices he will know that he is actually shortening the war.—*Headquarters, Army Service Forces.*

Your Cavalry Journal Address

Immediately following publication of the July-August issue of the JOURNAL, we started keeping a record of all changes of address, and the source of information from which these changes were made. From August 15th to September 10th, we made changes of address for 14% of our subscribers! Of this number, only about 50% had themselves notified us of the change. The rest of the changes were obtained in various ways, often with inaccurate results.

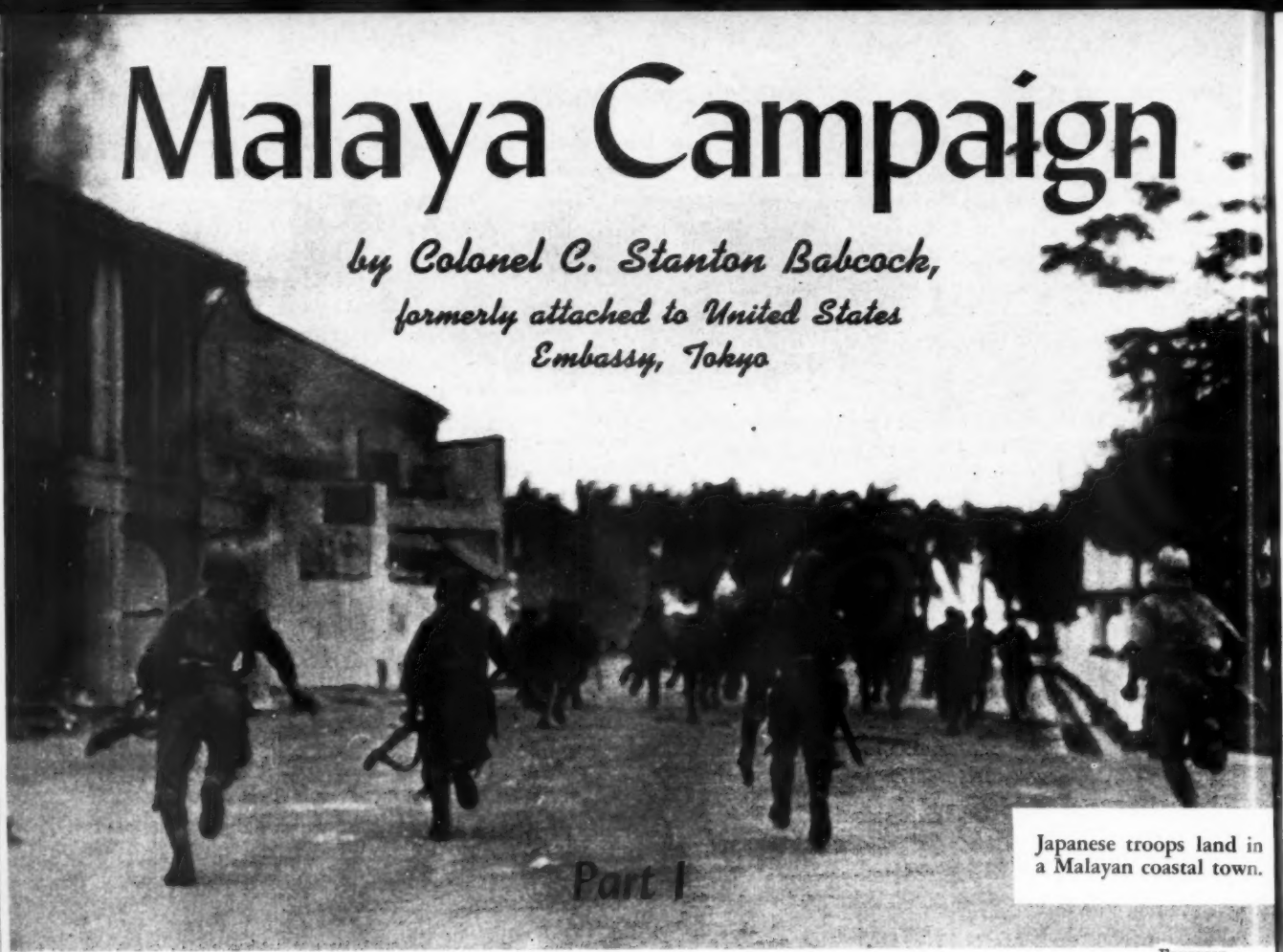
Our circulation has increased more than 50% this year, and with so many changes being made it is difficult to keep our addresses up to date. If you move without giving us your new address, we know nothing about it until your mail is returned, or we receive a notice from the Post Office. This all takes time, and before we catch up with you again, several JOURNALS may have gone astray.

The JOURNAL is written for you. You are paying for it, and we want you to receive it. When you are transferred, won't you *please take a minute to fill out the card which is in each copy of the* JOURNAL? That is the only way you can be sure that each issue will reach you promptly.

Malaya Campaign

by Colonel C. Stanton Babcock,
formerly attached to United States Embassy, Tokyo

Part I



Japanese troops land in a Malayan coastal town.

European

Japanese Preparations

THE capture of Singapore was vital to the success of the Japanese campaign in the southwestern Pacific. Not only was the British fortress and naval base a material obstacle to operations against the Netherlands East Indies and India, but it had come to have tremendous psychological value in determining the attitude of the peoples of all southeastern Asia. Rightly or wrongly, these peoples felt that if Singapore were to fall their fate was sealed; and, similarly, the Japanese felt that as long as the fortress held out, complete success could never be achieved. Singapore was thus a symbol to both sides in this war—a symbol of the *Will to Victory*.

The Japanese, with their keen sense of psychological values in war, were more aware of this than were the British and Dutch. Plans for the campaign were worked out in minute detail, and the best troops and equipment designated to carry them out. Japanese accounts give only a hint of their years of painstaking surveying and espionage work throughout the Kra Isthmus and the Malay Peninsula, but they are quite frank in describing preparations made during the summer and fall of 1941. These included negotiations with Thailand for the landing of troops on the Kra Isthmus, for use of the Bangkok-Singapore railroad, and for arrangements to cache supplies for use of the expeditionary force.

The troops assigned to make the initial landings were selected officers and men, drawn from units that had had long service in China and organized into two divisions specially equipped for the work they had to do. All of the troops that were to be used in this campaign had been given exhaustive training during the fall in selected areas of Indo-China and Hainan Island, where the terrain approximated that over which they were to fight. When these units landed in Malaya, far from being unused to the climate and the country, as the British expected them to be, they were trained and seasoned jungle fighters, the equal of any troops with whom they were to come in contact. The divisions that made the landings had spent the month of September in executing landing operations on the South China coast in conjunction with units practicing for similar tasks in the Philippines.

As the time appointed for the attack drew near, the troops were withdrawn from their training areas and assembled on Hainan Island, where large forces could be concentrated in complete security far from the eyes of prying "foreigners." Here they were completely re-equipped with brand new guns, vehicles, and other (equipment) of the latest type. A few weeks' training with the new matériel, and the expedition was ready for its big test.

Transports and supply ships began to arrive at Kung-

chow, Taichow, and Yaichow, singly and by twos and threes, during the last half of November. The problem of loading this large expedition at these three ports with their limited harbor facilities was a difficult one. To make sure that the operation could be accomplished smoothly and within the time allotted, Lieutenant General Yamashita embarked his entire force twice in practice runs while awaiting orders from Tokyo to set out on the expedition. When the orders finally came, the troops were embarked quickly and without incident (the matériel having been left aboard ship after the last practice loading), and the transports put out to sea, where they were assembled by the navy into two large convoys, well off the beaten track of commercial traffic. Careful handling of the convoys resulted in their reaching their destinations at the appointed time (1:30 A.M., December 8th), without having been discovered.[1]

Landings at Kota Bharu

Singora, on the Kra Isthmus in Thailand, and Kota Bharu, on the eastern coast of Malaya near the Thai border, were the two points selected for landings. No resistance was encountered at Singora except for a couple of attacks from the air; but at Kota Bharu there occurred one of the fiercest fights of the campaign.

The convoy heading for Kota Bharu was divided into two parts: the first carried an advance detachment consisting of a regiment of combat engineers, a regiment of infantry, a two-company battalion equipped with 37mm guns and mortars, and a unit of light tanks; the second consisted of the remainder of the division and followed about six hours behind the first. The mission of the first group was to establish a beachhead to cover the landing of the main body of the division. A squadron of heavy cruisers and two aircraft carriers were detailed by the navy to support the operation.

The transports bearing the first detachment crept silently into the bay that dark night and dropped anchor without drawing any fire or eliciting any other sign that their presence had been discovered. The entire 15-mile stretch of beach with the dark forests behind was silent and appeared deserted, although the Japanese knew that at least a part of the British 9th Division was in the sector and probably manning the line of concrete pillboxes and entrenchments that had been constructed along the shore. From the decks of the nearest transports, the men could see the elaborate system of wire entanglements strung along the beach, and the obstacles built out into the sea, designed to wreck small boats.

The crews of the ships, working hard and fast, lowered the steel assault barges (each of which carried a tank), the motor launches, and the lifeboats, while each combat team quickly and without confusion loaded into the boat to which it was assigned. There was still no sign from the shore, though the presence of such a large number of ships could hardly have remained unknown to any watchers on the beach. In less than an hour, the boats of the first assault teams were in the water and ready to make the dash for shore. Suddenly a rocket went up from one of the transports, and a few seconds later every cruiser and destroyer in the convoy opened up at almost point blank range on the entanglements and obstructions along the beach. Meanwhile, the assault boats, moving out on their long trip to the beach, were followed by motor launches towing strings of crowded lifeboats. Then, at last, the British lines came to life. From every pillbox, machine gun fire flashed out against the darkness, while the slap of shrapnel balls on the water showed that the beach defense batteries were laying down their barrages.

It was a long, slow trip to the beach through that rain of fire, and the attackers suffered many casualties. The Japanese themselves, in their accounts of this engagement, refer to their losses as "heavy." Most of the casualties occurred among the men in open launches and ship's lifeboats. In fact, the Japanese say that had they ferried the entire command ashore in steel assault barges their losses would have been materially reduced. A number of those barges were wrecked by obstacles on the shore and many men were drowned, but there were virtually no gun-shot casualties among their personnel.

The covering barrage from the naval vessels was heavy and effective. Thirty minutes after the attack began, the fire from the shore began to weaken, and gaps in the line of flashes along the beach indicated where a pillbox or other strong point had been silenced. Resistance faded rapidly at the southern end of the British line, where two heavy cruisers were concentrating their fire. It was obvious that if the Japanese were to get a foothold on the beach, it would have to be at that point, since the attacks on the northern and central sectors had been repulsed with heavy loss. Two more ships switched their fire to the southern strip of

[1]This Japanese claim was in error. Both of these convoys were reported to the American Embassy, Tokyo, as having rounded Cape Camau, the southern tip of Indo-China, on December 5th.

The Conquest of Malaya from the Japanese point of view.

Like the two installments of "Philippine Campaign" and the account of the Hong Kong Campaign written by Colonel Babcock, this account of operations in the Malaya Campaign is based on information drawn entirely from Japanese sources: official bulletins, news reports, speeches, radio commentaries, magazine articles, and personal experience accounts written by officers and men at the front. The only Allied bulletins used were those quoted in the Japanese press.

Colonel Babcock says: "While confined to the compound of the American Embassy in Tokyo from the outbreak of war until June 17, 1942, I was cut off from any outside news. Consequently, the preparation of this paper has not been influenced by information received through any but Japanese sources. It should also be remembered that all dates are one day advanced over those used in the United States."

beach. The survivors of the attacks in the other two sectors were reörganized and moved over to support the regular combat team assigned to take this objective; and the division commander joined the assault to lead what was literally a "forlorn hope." Upon the success of this final attack hung the fate of Singapore—and perhaps the outcome of the war in the Far East.

The boats moved in slowly this time. There was no wild rush for the beach, in an attempt to avoid the defenders' fire, with a consequent piling up of boats and barges on the obstacles built out into the water. Instead, they picked their way carefully, looking for spots where the navy's barrage had cleared out the obstructions. Casualties were light, for the British fire, now smothered by the naval guns, was weak. Just as dawn was breaking, the first Japanese assault teams struggled ashore from their barges and ran their tanks up onto the beach.

Now ensued the most critical period of the battle, if not of the whole campaign. The Japanese had gained a foothold on shore in a weakened portion of the British defense line. But their reserves were used up, and if the defenders could organize and launch a vigorous counterattack, either with reserves or with some of the battalions in the neighboring sector, the exhausted troops on the beach would be driven back into the sea, and the main body of the division, which was just then steaming into the bay, would be deprived of its covering force and would have to attempt a daylight landing under fire. It was clearly a situation that called for resolution and aggressiveness—two qualities which have been characteristic of the Japanese in this war. The division commander, who was on shore with the landing party, directed the units on the beach to push on as fast and as far as they could to break up any counterdrive that might be forming, and sent word to the newly arrived convoy to rush men and matériel ashore into the occupied sector *as rapidly as possible* and *regardless of losses*. To the naval escort was entrusted the task of keeping down the fire from that part of the line not yet in possession of Japanese troops.

Orders were carried out promptly, and soon a steady procession of boat-trains, crossing from ships to beach, was carrying reinforcements of men and equipment. All branches and all units worked in excellent coöperation, except that *the carrier-borne bombers assigned to raid Kota Bharu airfield came over five minutes after the British planes had taken off, and that short delay cost the Japanese many lives and very nearly wrecked the expedition.*

The nine British Blenheim bombers, coming in singly, flew very low out of the east, where the rising sun shone in the eyes of the antiaircraft gunners. The transports lying at anchor in the bay presented an ideal target, and the damage inflicted must have been terrific. The official Japanese communiqué admits the "loss of four transports, without loss of army personnel, as all troops had already landed." But personal-experience narratives tell of loaded transports being bombed and sunk and men swimming ashore. Antiaircraft fire brought down four British planes, and another was wrecked trying to land on the airfield, which had been heavily bombed by Japanese carrier-borne bombers while the British were away.

Forty Japanese dive bombers carried out the raid on the airfield, and left hangars, shops, and barracks a mass of blazing ruins. A second wave of attackers, which came over shortly after the British had landed from their raid, caught the Blenheims as ground crews were attempting to service them amid the confusion and wreckage of the bombed field, and destroyed all four of them. So, in one short hour, the Japanese deprived the British troops of their close-up air support. Until late that afternoon, when a squadron of bombers from some base farther down the peninsula came up and attacked the convoy, the British troops had to fight under a sky filled with unopposed Japanese planes.

Air Superiority

Throughout this campaign, as in all their campaigns of this war, the Japanese made air superiority their primary consideration. Day after day their bombers, hammering away at all British airfields on the peninsula, paid special attention to those in the north closest to the advancing Japanese columns. At first, this work had to be done by naval squadrons operating from carriers off the coast, but within a very few days, bases had been established in Thailand from which both army and navy land-based heavy bombers and fighters operated to good effect.

Until the RAF in Malaya had been rendered virtually impotent, the Japanese devoted their entire bombing strength to the task of blasting the enemy's air bases, and never permitted a single air unit to be diverted to any other use. Once complete command of the air had been gained, they used their reconnaissance and dive bombers to strafe British ground troops and supply columns, and their heavy bombers for long-range bombing of bridges and similar important objectives. Twice the British sent air reinforcements to this area in an effort to wrest superiority from the Japanese. Both times, all Japanese air squadrons were called off their previous assignments and concentrated again on the job of smashing the British Air Force.

These tactics served them well. The prodigal use of masses of planes more than compensated for any technical superiority of the British machines; and, though losses were heavy, the Japanese won unquestioned control of the air in the first four days of the war. Thereafter, except for a few days during the fighting near the Selangor River, they never permitted their ground troops to be hampered seriously by any British attacks from the air.

British Withdrawal

The British counterattack on the landing party at Kota Bharu came at noon, but by this time the Japa-

nese had established themselves so strongly in the southern sector that it was impossible, with the limited number of troops available, to drive them back into the sea. The British were occupying such an extended line that they had very few reserves and had to execute the attack with troops from the central sector who had been fighting all night. Although the invaders were not pushed back, the Japanese admit that their advance was halted for the rest of the day by this attack and by subsequent "futile efforts lasting all day on the part of the British to drive our troops from their foothold on the shore."

In spite of the Japanese assertion, it would appear that the British purpose was to contain the Japanese troops in the southern sector in order to permit the main body of the British force to withdraw from a very

precarious position. Because the Japanese were in full possession of the southern sector of the British line, which ran north and south along the 14-mile stretch of beach, and were astride the only road leading to the south, the entire British force had to withdraw across the front of an aggressive and superior enemy force. In order to do this, it was necessary to sacrifice a part of their division in containing attacks so that the Japanese would not be able to cut them off entirely from their route of retreat.

The actual withdrawal, after dark, was executed in a masterly manner. While the troops in the central sector attacked the northern flank of the Japanese salient, the units which had been garrisoning the northern sector (the 18th Brigade) marched south through the jungle behind their own troops until they attained a position on some high ground about a mile south of the farthest point reached by the Japanese. Here they established a line facing north and straddling the road over which the remainder of the British division was to withdraw. As soon as this brigade was in position, the troops in the central sector broke off their attack, and, under cover of a barrage fired by the supporting artillery of the 18th Brigade, withdrew down the road and through the position established by the 18th. At the same time, the remnants of the 20th Brigade, which had originally occupied the southern sector and had been driven well into the jungle by the Japanese penetration of their position, attacked the point of the Japanese salient. Although repulsed with heavy losses, they succeeded in pinning down the Japanese long enough to permit the troops from the central sector to retire. All units had now been withdrawn from contact with the Japanese except the battalions of the 20th Brigade, and it looked as though they would have to be sacrified for the sake of the remainder of the division.

These Australian troops are shown in the Malayan jungle during training just prior to the Japanese invasion. Much of the early fighting was done in terrain similar to this.

European

About 2:00 A.M., after twenty-four hours of almost continuous fighting, the commander of the 20th Brigade broke off the engagement and directed his battalions to make their way individually south through the jungle and to reassemble at Kota Bharu airfield, south of the position occupied by the 18th Brigade. These instructions were made known to the Japanese through the capture of the brigade commander and his staff. Many of the men of the 18th Brigade were lost in the jungle, and only two skeleton battalions arrived at the assembly point just before dawn. Nevertheless, in spite of the desperate position of these troops and the exhausted condition of officers and men, none surrendered as a unit; the only prisoners captured by the Japanese were a few stragglers who had become separated from their companies in the darkness.

The Japanese, worn out and disorganized by the continuous fighting, made no attempt to pursue the British, but spent most of the next two days in consolidating their position and reörganizing their badly mixed-up units. During this period, they lost ground contact with the British, but learned from their incessant air reconnaissance that the enemy had withdrawn and was marching south down the east coast road in the direction of Trengganu.

Attack on the West Coast—Parit Buntar

On the evening of December 9th, the first of a number of convoys bearing the main body of the expedition arrived in the Kota Bharu Bay. Within ten days three infantry divisions, a mechanized division, and a number of corps and army troops were landed at this point and marched south in preparation for an attack on the reinforced British 9th Division, which during this time had taken up positions on the southern bank of the Trengganu River.

In the meantime, the second of the two initial Japanese convoys from Hainan Island had arrived off Singora in Thailand, just before dawn on December 8th. The landing of these troops was unopposed. In fact, the local Thai authorities did all in their power to assist them. Japanese accounts describe how their advance units found three empty railway trains standing on a siding in this out-of-the-way junction of the Bangkok-

European

Two Japanese tanks, smashed and fired upon by the Australian antitank gunners, are seen among the felled trees which were placed along jungle roads to form a blockade to the Japs. Many other tanks were destroyed by the Australians along this road with the help of blockaded roads. The Jap in the foreground was shot while trying to escape.

Singapore railway—and immediately appropriated them. To this detachment, which consisted of a motorized division reinforced with tanks, had been assigned the mission of cutting across the Kra Isthmus, following the railroad and the highway that parallels it, and entering British Malaya through the Province of Kedah on the western coast.

The debarkation was carried out in a most efficient manner. The first troops ashore were a specially organized mechanized regiment of armored cars and tanks, which set out at once for the Kedah border without waiting for the rest of the division to debark. Then, behind the protection of an outpost line established by the first infantry units, the division with all of its heavy equipment was brought ashore before nightfall. By the time that the division had moved into its assembly area, the commanding general had received word from his advance mechanized detachment that the Kedah border was lightly held by only a few frontier guards. Early the next morning the division moved out from Singora. At the same time, the advance detachment was ordered to cross the border into Kedah and push south until it encountered resistance which it could not overcome. As the last of the division was leaving Singora, the convoy carrying the advance units of the next division arrived off the port.

It was just about then that a strong British air attack took place. According to Japanese accounts, the raid was heavy and sank "several transports of the first convoy, which of course were empty." But in view of the time of the raid, it is likely that the planes intercepted the second convoy as it was approaching the shore. Before the British airmen could get away, they were engaged by fighters from an accompanying Japanese aircraft-carrier, and all but two of the eleven bombers were shot down.

General Yamashita, Commander-in-Chief of the Malayan Expedition, who had landed with the division at Kota Bharu, now flew to Singora to join his west coast column, because he realized that the most serious fighting would take place in this area.

The road along which these troops were marching ran through low, flat country, covered with such dense jungle growth that it was impossible to move more than a few feet off the road on either side. In spite of the large number of troops (a total of five divisions by the time they had reached the Perak River), the actual fighting was done by small units at the head of the column. Because of the narrow road and lack of maneuver space, the British as well could use only small bodies of troops. But by the clever use of demolitions, road blocks, and small rear-guard detachments armed

European

This road block, constructed by the Australian forces, was intended to cause damage to the Japs' motorized vehicles. The caption that accompanied this picture says that when the photograph was taken the invading Japanese were less than a quarter of a mile away.

with motorized antitank guns, they were able to slow up the Japanese advance in its early stages and to inflict heavy losses in both men and matériel.

The fighting in this area was similar to the mountain-pass fighting engaged in by the Germans in Norway and the Balkans, in that the troops were limited to a narrow maneuver space, and all targets could be located easily along the narrow route of advance. Profiting by the example of the Germans, the Japanese made good use of dive-bombers in reducing the road blocks and centers of resistance which the British had established at frequent intervals. The Japanese say that these targets were easily located from the air, and that a few bombs dropped in the vicinity usually sufficed to clear the way for their advance units. During the first three days, the Japanese never used their artillery. Indeed, it would have been impossible to find a space wide enough to deploy a battery. Not until the leading motorized division reached the Krian river on December 11th did they encounter their first real resistance.

It was the advance mechanized detachment of the Japanese motorized division, traveling five or six hours ahead of the main body, that first encountered British resistance along the Krian river, at Parit Buntar, where the highway and railway bridges had been destroyed. Because of the thick jungle on the British side of the river, the detachment commander was unable to deter-

Acme

An Australian antitank gun blazes away at Japanese tanks trying to pass trees felled across a road during fighting in Malaya.

mine by observation the extent of the British dispositions. He brought up his machine guns and riflemen and opened fire on the British lines in an attempt to draw answering fire and so gain some idea of the British dispositions and strength. But the British refused to open fire so long as no favorable targets presented themselves.

As soon as the Japanese reached the river, the detachment commander asked for dive-bombing support, and directed his engineer company to prepare to cross in rubber assault boats. At the same time, he sent the column commander a message describing the situation and reporting his action. The commanding general immediately issued orders halting all units of his column in place, in order to prevent his force from jam-

ming up on a narrow road within artillery range of the British position.

The Japanese column had been marching at widely extended intervals. The head of the main body was at Prai opposite Penang island, occupied by the Japanese only that morning; while the remaining divisions were strung out along the road to the north, with the last one still in bivouac at Singora. It is true that the Japanese force, stretched out in this way, presented an unfavorable target for bombing attacks. But the fact that General Yamashita allowed his command to become so strung out that it would require several days to assemble for battle, showed that he had little fear of any offensive action on the part of the British.

Immediately on receipt of his advance-guard commander's message, Yamashita drove forward to inspect conditions for himself. He arrived at the riverside just in time to see the engineer company (which had attempted a crossing by rubber boat under protection of a heavy dive bombing attack) driven back to its own shore before it was half way across. Realizing at once that crossing this river was a major task, he directed the advance-detachment commander to cease attempts at offensive action, to maintain his position until relieved by infantry which would be sent up later, and to reconnoiter up and down the river for a distance of 12½ miles to locate any fords or other places where crossings might be effected.

Patrols soon located two fords, one about 3 miles upstream, and one 6 miles down, and reported that both were strongly defended by the enemy. The jungle on both sides of the road leading up to Parit Buntar was extremely thick, but a narrow native track branched off this road to the west about five miles from the river and led to the western ford. For a distance of about 2 miles before reaching the ford, the path paralleled the river and was only five or six hundred yards away. Careful reconnaissance by officers' patrols during the afternoon of the first day and throughout the night had revealed that the British were defending the river bank between the fords and the bridge with only a few patrols.

The Japanese decided to attempt a crossing between the bridge and the western or downstream ford. During the night, the engineer regiment of the motorized division moved up close to the river and, with the assistance of some infantry detachments, cleared positions in the jungle for the division's artillery batteries and widened the footpath so that it could be traversed by wagons carrying the assault boats. Because of the difficult nature of the country on the British side of the river, this crossing would have to come as a complete surprise if it were to be successful. The Japanese therefore kept the air over Parit Buntar filled with fighter planes during daylight hours to insure that no British observation plane could get wind of their plans.

By the night of the 19th, artillery positions had been prepared, and the guns opened up a heavy fire on the three British defense positions behind the fords and the destroyed bridges. At the same time troops, moved up opposite those positions in full view of the enemy, gave every indication that when the Japanese attack came it would be launched at one or more of those points.

On the morning of the 21st, just about daybreak, after almost twenty-four hours of continuous bombardment, two squadrons of Japanese dive bombers flew over and attacked the British positions at the eastern ford and at the bridges. Shortly afterwards, the Japanese infantry started out across the river in small rubber boats; but, in spite of the heavy bombardment to which the British had been subjected, they were able to bring to bear enough fire to stop this attack in its tracks. This, however, was all according to Japanese plan. Their main attack had gotten under way before dawn, when the engineer regiment crossed the river at an undefended point about one mile upstream from the western ford. Almost the entire regiment had reached the opposite bank before it was discovered by a small British patrol that happened to run into one of the Japanese companies. The entire patrol, however, was captured, so that no word of the successful crossing got back to the British commander until some three hours later, when the Japanese engineer regiment, after having forced its way through the jungle, attacked the flank and rear of the defensive position opposite the bridges.

In an attempt to save the situation, the British brought up a reserve battalion and executed a counterattack. But by that time an entire brigade of Japanese infantry had followed in the footsteps of the engineers, and there were far too many troops on the southern bank of the river to be dislodged. The counterattack had succeeded, however, in delaying the Japanese long enough to permit all British troops to withdraw from their positions and to assemble in the vicinity of Taiping without serious interference.

Japanese shocktroops in Malaya take cover behind automobiles left by the British. Photograph received from neutral sources.

European

The Japanese did not take up the pursuit that night, and early the next morning the British withdrew along the railroad into the Larut Hills, where their rear guard established itself in the only pass where the railway and highway cross the mountains. The main body continued on and occupied previously prepared defensive positions on the eastern bank of the Perak River, which at this point runs south, parallel to and behind the Larut range.

The Fight in the Larut Hills

The Larut Hills fight was a small one, for the forces involved on both sides were not large. It was important, because it held up the Japanese columns for two days. It is interesting, for it shows the extent to which the Japanese had studied the technique developed by the Germans for fighting in mountain passes in Norway and the Balkans.

Larut Hills Pass, which at the time of this engagement was occupied by a battalion of Australian infantry supported by two 6-gun batteries of light artillery, is an ideal position for defense. The road and the railway rise steeply out of the jungle and climb to an elevation of about fifteen hundred feet in the short distance of 6 miles. The thick jungle floor of the plain provides no space for maneuver or development; and as the road rises out of the forest towards the high land, the country becomes steep and rocky, so that it is extremely difficult to move more than a few yards to either side of the road.

The position occupied by the Australians was organized in depth, with mutually supporting strong points extending from about half way up the pass to the summit. Because of the nature of the terrain, the Japanese were unable to use more than one battalion of infantry in the assault, and had to direct their attacks straight up the road without having recourse to any outflanking maneuvers. In order to accomplish this, it was necessary to bring an overwhelming fire against the British line. Battery positions were cleared in the jungle at the foot of the pass, and a couple of 155mm gun battalions shelled the area for several hours prior to the assault. But the observation from the jungle floor was poor, and the assault troops would never have been able to advance had they been forced to depend on this support alone.

Here, for the first time, mention is made of self-propelled artillery. The Japanese description of this piece corresponds quite closely to what we know of the 105mm gun, mounted on a self-propelled tractor, used by the Germans in all of their campaigns since May, 1940. In the Larut Hills fight, the Japanese seem to have used a battery of six guns, which followed the infantry-engineer combat teams in close support and engaged the enemy's strong points with direct fire from positions on the road close behind the assaulting units.

The Japanese proceeded in the only way possible, by a series of direct, limited frontal attacks against each strong point in turn. The objective each time was limited to the strong point immediately in front, and after its capture, fresh combat teams would be brought up to defend the area against counterattacks launched by the British from strong points in the rear. Because of the small size of the garrison, such attacks were never very large nor very heavy, but in the early stages of the fight there were frequent local counterattacks made by units the size of a platoon.

It was a slow, painful advance, and it cost the Japanese heavily in both men and matériel. Although they were able to use only one battalion at a time in the assault, this was constantly replaced, so that before the fight was over, four in succession had been moved up against the lone battalion of defenders.

The Japanese ground troops were aided in this attack by an almost continuous series of dive bombings. By the evening of the 22nd, two British artillery batteries mounted on the high ground on either side of the summit of the pass had been bombed out of action. Deprived now of all artillery support except that furnished by one howitzer battery firing from the valley on the far side of the pass, the Australian defense began to crumble. By noon on the 23rd, all but the last two strong points located in the summit of the pass had fallen to the Japanese, and it was clear that if the defending battalion was to extricate itself as a unit it would have to withdraw before the next onslaught. Probably under orders from his division commander, the British battalion commander withdrew his companies from their positions in the pass, loaded them into trucks behind the crest of the hill, and started down the road into the Perak valley in an attempt to rejoin the main forces which had constructed a defensive position in the hills to the eastward.

While the Bren gun carriers and trucks were winding their way down the steep mountain road, a squadron of Japanese dive bombers came over intending to deliver the preparatory bombardment for the final assault. Catching sight of the convoy, and realizing that the enemy had pulled out of their position, the squadron commander directed his attack on the column of vehicles. There appears to have been no antiaicraft fire, and the troops sitting in open trucks, moving down a narrow road at a snail's pace, suffered terrible losses. When the Japanese infantry passed the spot a few hours later, they found more than fifty charred and overturned trucks and gun carriers scattered along the road.

The capture of Larut Pass gave the Japanese possession of the entire range of the Larut Hills. From their position on the crest they could look eastward across the Perak River valley some 6 miles to the high ground where the British were entrenched. As the British had withdrawn to the left bank, the Japanese were able to use the entire area west and north of the river without opposition.

(To be concluded in November-December issue.)

Filipinos Train for Combat

The U. S. Army is proud of the First and Second Filipino Regiments—tough fighting men of the same mold as the 92,000 Filipinos who saw action under General MacArthur on Bataan, in Corregidor, and elsewhere in the Battle of the Philippines.

The Filipino regiments are an outgrowth of a special Filipino battalion created by the War Department in February, 1942.

The original Filipino battalion rapidly grew in size and soon expanded into the First Filipino Regiment. Subsequently, as more and more Filipinos came into the service, the Second Filipino Regiment was activated.

U. S. Signal Corps Photos

In the two regiments are serving a number of Filipino veterans who were among the 92,000 Filipino troops who fought beside General MacArthur's 14,000 Americans against the Japanese invaders in the Philippines. Typical of these veterans of the Philippine Campaign is Sergeant Eustacio Corpuz, who was wounded and crossed the Pacific to the United States on a hospital ship with both legs in plaster casts.

Fifty Filipino commissioned officers are on duty with the regiments, among them a number of West Point graduates.

—U. S. War Department Bureau of Public Relations.

BATAAN WILL BE

*by Major General Basilio J. Valdes**

ON December 7, 1941, without warning—at Pearl Harbor, Midway and in the Philippines—Japan attacked. Only 16,000 American troops were in the Philippines when the Japanese attacked 300,000 strong. Pearl Harbor lay shattered, a smoking, twisted mass of wreckage. The Japanese believed that the conquest of the Philippines would be a simple matter of a few days, strenuous only to the extent of wiping out a handful of Americans. Then, they believed, the conquest of the entire Southwest Pacific would proceed apace—there was Australia and New Zealand ahead, and later Hawaii, and then—who knows?—perhaps the American mainland.

But a bitter surprise was in store for them. The devotion of the seventeen million Filipinos linked them solidly with America. Ninety-two thousand Filipino soldiers leaped to the side of the Americans, all under the command of that great soldier, General Douglas MacArthur. Overnight, the Filipinos became a world-wide symbol of hard-hitting, dogged courage. Twenty thousand Filipino soldiers were killed in the Battle of the Philippines, and lie today in their jungle graves beside their American fellow-heroes. For months that battle raged, and when it was done the United States and the other United Nations had been given a precious respite in which to mobilize their far-flung Pacific defenses. On the bloodstained peninsula of Bataan had been fought one of the greatest delaying actions in all military history.

When the Filipino people resisted the Japanese invaders with their very lives, they gave final proof that here was a nation fit to be respected as the equal to any on earth, not in size or wealth, but in the stout heart and national dignity which are the true measures of a people.

—Franklin D. Roosevelt.

Those are the facts, simple, undeniable, understandable. They are the answer to those who do not have faith in international coöperation. They are an answer written in the blood of the Filipino and American martyrs to the cause of human freedom.

As President Quezon has said: "The Filipino people fought back because they knew that America had made a promise and that she would keep that promise. When we fought for your flag, we knew we were fighting for our own freedom. When we resisted the invasion of our country, we did so because we knew the Philippines was our country, not only *de facto* but *de jure*. And we were loyal to you, to your flag, and to your country, not because under international law we owed you that allegiance, but because you have won our undying friendship and affection—because you did by us what no other colonizing power has done by the people who had fallen under their sway. The presence of your flag in the Philippines was a symbol of our freedom. It was there only to allow you to finish the work you had started to do—to help set up an independent Philippine Republic."

Much has been said and written about the magnificent stand made by the combined forces of the American and Philippine Armies in Luzon, Bataan, and Corregidor. I saw those boys fight, and they deserve fully every bit of the praise that has been given them.

The Congressional Medal of Honor was awarded to Sergeant Jose Calugas, Battery "B," 88th Field Artillery, Philippine Scouts. The action for which the award was made took place near Culis, Bataan Province, Philippine Islands, January 16, 1942. A battery gun position was bombed and shelled by the enemy until one gun was put out of commission and all of the cannoneers were killed or wounded. Sergeant Calugas, a mess sergeant of another battery, voluntarily and without orders ran 1000 yards across the steel-swept area to the gun position. There he organized a volunteer squad which placed the gun back in commission and fired effectively against the enemy, although the position remained under constant and heavy Japanese artillery fire.

Paralleling Sergeant Calugas' gallantry on land were the exploits in the sky by Captain Jesus A. Villamor of the Philippine Army Air Corps, who was awarded the Distinguished Service Cross. In the face of heavy fire from strong enemy air forces he led his flight of three pursuit planes into action against attacking Japanese planes. His flight routed the attacking planes and prevented appreciable damage to matériel at this station.

On another occasion, during an attack on the airdrome at Batangas by approximately fifty-four Japanese bombers Captain Villamor led six pursuit planes and engaged the enemy. By this action against enormous odds, part of the attacking planes were driven off and one of the enemy planes was destroyed by fire from Captain Villamor's plane.

There is also the story of two Q-boats of the Offshore

*Chief of Staff, Philippine Army, and Secretary of National Defense in President Quezon's War Cabinet.

EAVENGED

Patrol, which were on duty in Manila Bay off the east coast of Bataan when a group of nine enemy dive bombers appeared and began attacking nearby shore objectives. The commander, Captain Navarrete, maneuvered the boats of his squadron at high speed to positions from which he could attack the hostile planes. When subjected to dive-bombing attack, he continued the fire of his machine guns with such accuracy that at least three of the hostile aircraft were hit and badly damaged, and the enemy forced to discontinue the attack.

And then there is the story of that memorable battle of February 15, 1942, in which the Filipino soldiers from the Mountain Province especially distinguished themselves. General MacArthur's communiqué reads:

"During a recent enemy offensive, the 20th Japanese Infantry made an attack on a position held by a single Igorot company. To a man, the Igorots died in their foxholes without flinching or thought of retreat but exacting a tremendous toll from the Japanese. To restore the situation, our high command ordered an immediate counterattack by a tank unit, supported by the infantry. The infantry soldiers were Igorots, eager to even the score of their lost tribesmen.

"The bamboo jungles and the heavy, irregular terrain of the section of the front were almost impenetrable and apparently made it impossible for the tanks to operate. Without a word the Igorot commander hoisted his men to the tops of the tanks in order that they might guide the machines through the matted morass of underbrush, thickets and trees. The exposed Igorot soldiers on top of the tanks served as the eyes of the American drivers. Each guide signalled his driver with a stick, and as the unit closed in on the enemy, the Igorots fired continuously with their automatic pistols. Bataan has seen many wild mornings, but nothing to equal this. No quarter was asked and none was given. Always above the din of battle roared the fierce shouts of the Igorots as they rode the tanks and fired their pistols. When the attack was over, the remnants of the tanks and of the Igorots were still there but the 20th Japanese Infantry was completely annihilated."

In recounting the story of the battle to a group of his officers, General MacArthur said, "Many desperate acts of courage and heroism have fallen under my observation on many fields of battle in many parts of the world. I have seen forlorn hopes become realities. I have seen last-ditch stands and innumerable acts of personal heroism that defy description. But for sheer breath-taking and heart-stopping desperation, I have never known the equal of those Igorots riding the tanks. Gentlemen, whenever you repeat this story, stand in tribute to those gallant Igorots."

U. S. Signal Corps Photo

Troops of the 1st Filipino Infantry Battalion train at San Luis Obispo, California, for anticipated action against the invaders of their homeland.

The young Filipinos and Americans who died on Bataan and elsewhere were brothers-in-arms in a battle that will live forever in the annals of gallantry.

I saw those men fight. I was with them through their terrible ordeal. I saw untrained Filipino soldiers, hardly out of their teens, turn into veteran soldiers overnight. I saw your American boys, most of whom had never been under fire, fighting like heroes. I saw the wounded suffering quietly, and the Japanese bombs dropping viciously on the field hospitals clearly marked with the red cross of mercy. I saw the Japanese planes roaring continuously overhead, and the shells from the Japanese artillery crashing everywhere, and the snipers' bullets whipping through the underbrush.

Twenty thousand Filipinos and three thousand Americans died for freedom on Bataan and other Philippine battlefields. Our Filipino soldiers willingly made their sacrifice for liberty—for they were the youth of a people who had tasted freedom and were determined never to give it up.

If democracy is to remain a living ideal, we must follow their example in our acts and in our thoughts. Unless we are wise in planning for a better, safer world—unless we apply, throughout the world, some of the lessons of America's relations with the Philippines, all of the fighting, suffering, and dying of this terrible war will have been in vain. I believe that we will meet that challenge, and that the heroic fight waged in the Philippines was only a prelude to ultimate victory—our victory.

← Chinese infantrymen fire at Japanese lines on the Salween River front. Artillery shells explode at right. This action, from a newsreel, took place in Yunnan Province, when the Chinese broke up a three-pronged Japanese drive headed for the interior.

Photos by Press Assn.

This Chinese sharpshooter is reported to have killed 100 Japs during the battle along the Hupeh Hunan Front which started late in May as Chinese troops defended the gateway to Chungking. ↓

↑ Lt. General Kuo Tsai, Chief of Staff, (*left*) looks at a map with General Chen Chen, victorious commander of the Chinese armies in the Upper Yangtze battle.

→ Chinese troops, strung along a road in Yunnan Province, headed for the Salween River Front near the Burma border to relieve men in action against Japanese forces. This scene is from a newsreel.

← Constantly harrowing the Japs on China's "back door" Salween Front, these Chinese soldiers move up across a rushing mountain stream. A line across the river helps them keep their feet. Branches on their backs help them merge into the foliage.

Chinese Defend the Gates to Chungking

In the Battle of the Upper Yangtze, between May 25 and June 6, 1943, victorious Chinese armies inflicted 40,000 casualties on the Japs.

On the Hupeh Hunan Front, during the battle of the Upper Yangtze, Chinese soldiers move up for battle. →

← Victorious Chinese troops with some of their war booty which they captured from the Japs during the battle of the Upper Yangtze.

Tactics of Stree

In the ruins of Stalingrad, each building became a prize of war.

Sovfoto, from official film, *City That Stopped Hitler.*

Military Lessons of Stalingrad*

IT IS wrong to think that urban fighting is in every case, and in the literal sense of the word, street fighting. When the enemy has entrenched himself in a town, urban fighting means fighting for a house, for a building, for a block. Operations develop along alleyways, inside houses, in ruins, underground. But the streets are empty, and so are the squares.

Military students, devoting ever increasing attention to the problems of urban fighting, are now studying this type of battle from every angle. Attempts are being made to summarize the tactical experiences of street fighting, to determine the rôle played by the various arms, and to elucidate the problems of coöperation.

We now have every opportunity to debate these problems intelligently, as we now possess the extensive experience amassed at Leningrad, Odessa, Sevastopol and Stalingrad, all of them large cities whose defenders demonstrated many new methods of fighting.

The men of Stalingrad especially were called upon to make a major contribution to the military art of urban defense. They held their city after repulsing the innumerable armored hordes of the enemy, ground 27 of his divisions to dust, and then took the offensive.

The struggle for the city of Stalin, for the stronghold on the Volga, taught us much and greatly enriched our store of tactical experience. One of the most important lessons learned at Stalingrad relates to commando action in cities.

*From *Soviet War News Weekly*, June 24, 1943.

Shock Groups

The defenders of Stalingrad created a peculiar type of shock groups as an instrument for street fighting. These groups, flexible, maneuverable, strongly armed, are equally valuable in active defense and in attack.

They are unlike the usual shock groups. In field conditions shock troops approach enemy blockhouses or firing points in order to destroy them completely. Inside a city, on the other hand, the shock group is required not merely to destroy the enemy but to use the conquered strong point for its own purposes, to turn it into a reliable stronghold, into a fort which can be used for a further development of active operations.

The thrusts of the shock groups are short, their actions bold and rapid.

The very nature of urban fighting determines the nature of these shock groups. All street fighting is at close quarters. An offensive inside a city means the storming of fortified houses which the enemy has turned into firing points, strong points or centers of resistance.

Here there is no opportunity for offensive operations by large units, conducted under usual field conditions. Here it is the small infantry group that dominates the scene. The small infantry group is best adapted for taking single buildings or blocks of buildings from the enemy step by step, i.e., for liquidating firing points or centers of resistance. Thus, it is a small group which is the spearhead of attack in urban fighting.

Let us begin by elucidating the conception "small

e-fighting

by

Lt. General V. I. Chuykov
Red Army

group." The first stage of urban fighting arises when the enemy has only just seized a section of a city, and his defenses are still split up. At this stage a small group may operate independently without immediate organic contact with the larger group to which it belongs.

The second stage of urban fighting arises when the enemy has settled down in the city, has been there for two or three months, and has established an unbroken line of defenses, hanging well together and secured by serious technical works and a sufficiently developed fire network. Under such conditions, it is useless to imagine that a party of from three to five men has only to "go, see, and conquer."

Even in this complicated stage of urban fighting the shock group still remains numerically small, and the character of its operations, i.e., its job, is still the same. But under these conditions the group acts only as the spearhead of a larger unit striking a strong blow planned to the last detail.

The success of the storming of the "Railwayman House" in Stalingrad was decided by three groups of six to eight men each. It was they who actually stormed the building, but they were supported by 82 other fighting men of various military specialties, all using a variety of weapons. It would have been impossible to operate in any other way against such a formidable enemy strong point.

Consequently, the shock group cannot be considered separately from the conditions in which it operates and the peculiarities of the battle objectives.

In referring to the shock group, we shall assume that the objective is the typical one in offensive urban fighting, i.e., the taking of strong points or of centers of resistance in which the enemy has entire garrisons.

Composition and Structure of Shock Troops

The experience of active operations at Stalingrad taught us that if an attacking unit is to fulfil its task, it must have storm groups proper, reinforcement groups, and reserves. These three battle teams, all tuned to fulfil the same common task, form the shock group.

The number of fighting men in each group cannot be stated as a hard and fast principle. It must be left to each commander to decide, after he has studied the

Sovfoto

A shock group advances through a trench to forward positions, whence the attack will be launched on this house, still occupied by Germans.

enemy's fire power, fire system and garrison strength. But the peculiar tasks of each component of the group need to be understood fully. These can be stated very precisely, and if they are not understood it is impossible to understand the tactics of the intra-urban storm.

The actual storm groups are the basis of the whole shock group. They are not large numerically, but consist of about 6 to 8 men each. They are the first to force their way into the house or other building. They rush in, in most cases, from various points of their initial po-

sition. Each group has its specific task. The storm groups fight inside the objective, destroy the enemy, and go through the whole building with each group handling the section allotted to it. They are lightly armed. Their weapons are the grenade, the tommy gun, the dagger, and the shovel. The latter is used as an ax in hand-to-hand fighting.

The groups have a common commander, who has at his disposal signal rockets, flares, and sometimes a telephone.

As soon as the commander of the storm groups signals, "I am inside," the reinforcement groups rush the buildings from various directions. They occupy the firing points and establish new ones, create a fire system of their own directed towards the enemy, and cut across all the enemy's attempts to come to the aid of his garrison.

The reinforcement groups are heavily armed. They carry light and heavy machine guns, antitank rifles, mortars, antitank cannon, crowbars, picks, and explosive charges. They necessarily include sappers and other men equipped with the most effective means of destroying the enemy.

The reinforcement group is subordinate to the commander of the storm group.

The reserves are used to fill up and strengthen the storm groups, to ward off lateral counterattacks by the enemy, and also, in case of necessity, as a blocking group. New additional storm groups can be formed quickly from these reserves and thrown into battle.

Such was the structure of the shock group which took the celebrated "L-shaped house." This center of resistance was so strong that it permitted the enemy to dominate the Volga on a sector of the greatest importance to us, and also the approaches to the Volga in considerable depth. The commander, Lieutenant Sedelnikov manifested striking tactical gifts, and his operation has been incorporated in the battle experience of the Red Army as one of the most outstanding instances of this type of warfare.

"A house is, after all, more suitable for peaceful living than for battle operations," but every room in Stalingrad became a battleground, and gains were counted street by street and house by house.

Sovfoto

There should be no special, permanent storm groups in the sub-divisions. Every Red Army man should be capable of acting in a storm group. Platoons, sections and companies should be trained in this maneuver, just as they are trained in any other infantry maneuver. What is more, it is important that any storm group should be recruited from the personnel of a single unit.

Preparation and Reconnaissance

However heroic a shock group may be, if the operation is not well prepared, the commander will hope in vain for success. The storm must be prepared most carefully and calculated most accurately. Preparations are based on two things: study of the objective, and elaboration of a storm plan.

The study of the objective must provide a complete picture of the enemy's firing points and fire system. It must produce complete familiarity with the roads of approach and enable the commander to estimate the best time for the storm. Reconnaissance also must give information on the nature of the defenses, the thickness of walls and obstacles, the position of entrances, concealed loopholes and ways of communication, on the directional sectors covered by enemy fire, on the obstacles in front of strong points, and on the position of the firing points of neighboring strong points which can keep the approaches under flanking fire.

Sovfoto

"Don't stay put in a house. Immediately begin again to establish routes of communication, new blocks and trenches. Work your way persistently nearer to the enemy."

If necessary, the information supplied by reconnaissance must be checked up by battle patrols.

When "Railwayman House" was stormed under the command of Yenin, all the data that I have mentioned were absolutely complete. His profound study of his objective enabled him to work out an accurate practical

plan and to mislead the enemy. As a result, Yenin could use the factor of surprise at a time when the storm was, so to speak, already in progress. Opening fire from the south, he provoked the enemy to turn his main fire power in that direction, and then seized the objective by advancing mainly from the east, with his three groups of daredevils of whom I have spoken previously.

It was careful study of his objective which enabled Sedelnikov, when storming the "L-shaped house," to direct his blow against a part of the house where enemy fire power was weakest, and where a dead space made it impossible for the enemy to attempt flanking fire.

Plans for a storm must be worked out on the basis of a thorough study of the objective. Careful reconnaissance will help the commander to solve his six main problems, which are:

1. Composition and structure of the storm groups.
2. Composition of the reinforcement groups.
3. The extent of reserves.
4. The tasks of the groups in all stages of the battle.
5. The degree to which the attack should be supported by fire from the rear; cut-off fire.
6. Signals and communications.

Tactical Methods

The tactics of a shock group must be flexible. Speed, drive, great initiative and boldness are demanded of every man, if for no other reason than that all sorts of unexpected things are bound to turn up.

Hurry up, be on time, look sharp!

The fighting man finds himself in a labyrinth of rooms and foxholes, all full of danger. Never mind. Chuck a grenade in every corner. Go on. Put a tommy-gun burst into the remains of the ceilings; if that is not enough, then a grenade and forward again. The next room—another grenade. Comb it out with the tommy gun.

Never dawdle!

Inside the objective, the enemy may try a counter-attack. He knows how to fight as well as you. Don't be afraid. You have already taken the initiative and it is in your hands. Storm more fiercely, use your grenades, your tommy gun; then go for the dazed enemy with dagger or shovel.

Fighting inside a house is savage fighting. Blind your enemy by every means and then hit him out of the darkness. Be prepared for surprises.

Let me tell you what happened in one objective. The men had reckoned on a struggle in the basement, but it was later found that this basement had collapsed across the whole width of the building. In order to penetrate into the rest of the building, it was necessary to get through this same basement, which was under enemy fire to a considerable depth.

The second surprise was that the enemy had walled up the entrances to the building and left only narrow passages which led to the firing points through the basement.

"There must be two of you to rush a house—you and a grenade. Both of you should be lightly dressed—you without your haversack and the grenade without its shirt. This is how you rush a house. Let the grenade go in first, and then you follow. Go through the whole house the same way—first the grenade, and then you yourself."

The third surprise was that a blank wall divided the building in two. Beyond the wall was the enemy. The Germans shouted from the other side:

"Hi, Russ! Let's have a rest. We're tired."

That was when the reinforcement group went into action. Crowbar, pickax, and lead piping all came into play. Where the crowbar did no good, an explosive charge would help. The walls were pierced to permit the throwing of grenades and a subsequent advance in force through the building.

In the 26th hour of the battle inside the "L-shaped house," the remnants of the German garrison, who had escaped into the basement, were called upon to surrender. They refused. After this the reinforcement group did one of its specific jobs. The entire left wing of the six-floored house was blown up and the Germans were buried under a mountain of rubble.

The reinforcement groups have worked out their own tactical methods, which have passed the severest tests. These methods include the careful consideration of every trifle as well as of major problems.

1. Machine gunners, mortar gunners, number ones of antitank rifle crews force their way into the building. Their number twos, carrying ammunition and food for 24 hours of battle, follow them.

2. Having forced their way in, they must immediately seize the upper or middle floors of the objective, in order to keep the surrounding terrain under fire and prevent the bringing up of enemy reserves.

3. Having occupied and established firing points in the building, supplementary firing points must first be established outside the building on the flanks and then moved forward towards the enemy, in order to come to close quarters as a prelude to further active operations. This is most important. A house is, after all, more suitable for peaceful living than for battle operations, and especially offensive operations.

Don't stay put in a house. Immediately begin again to establish routes of communication, new blocks and trenches. Work your way persistently nearer to the enemy.

Speed and Surprise Are Basis of Maneuver

Speed and surprise are the two factors on which the maneuver of the shock groups is based. These two factors are inseparable.

"Railwayman House" was attacked at 10 A.M. The storming groups, commanded by Yenin, had three min-

utes in which to accomplish their task. No more than three minutes separated the last discharge of the guns, the last burst of machine gun fire directed against the enemy's firing points, and the moment when these points could be expected to spring again into life.

The storm groups made brilliant use of this period of time, so brief according to ordinary conceptions, and rushed the house before the enemy could recover from the murderous fire directed against him just before the storm. In 30 minutes all the firing positions of this strong point had fallen, the first prisoner had been taken, and the garrison—consisting of two infantry companies and one heavily armed company—was surrounded.

Such is the effect of the time factor!

The "L-shaped house" was attacked at night without previous fire preparation. The storm groups threw grenades into the house while still running forward and climbed through the windows one after the other without losing formation. The enemy had no time to fire a single shot. In 20 minutes the storm group had been through one-third of this enormous six-storied building sprawling over two blocks.

Such is the effect of the surprise factor!

Every commander who is given the job of storming an enemy strong point center of resistance above all must make use of both the time factor and the surprise factor, for both factors merge in hand-to-hand fighting.

The shock group is a product of hand-to-hand fighting. Its indispensable weapon is the grenade. The grenade dictates the distance of the storm—the nearer the enemy, the better.

If we consider from this point of view the more or less important storming operations carried out by our troops, we find that they present themselves above all as consisting of a persistent and concealed progress, aimed at bringing the attackers to close quarters with the enemy.

The forward area of the sector occupied by Sedelnikov's men was 180 yards from the "L-shaped house," but the daring shock groups of this remarkable commander stormed their objective from an initial position only 30 yards away. Our numerous shock groups have now made it their tactical rule to storm from such a distance.

The lesson of experience is that the enemy should be approached through trenches, or by crawling along while using shell holes and ruins as cover.

Such trenches must be dug at night and camouflaged. The men must gather for the storm rush without being seen by the enemy, without noise, through trenches, in shell holes and ruins. Tommy gun round the neck, ten grenades within easy reach, boldness in the heart! Now act! If you do this, speed and surprise will both be yours.

Mutual Coöperation

Commanders and men are working diligently to solve the tactical problems involved in mutual coöperation between shock groups and artillery, tanks, and other arms. At present the position is quite definitely thus: if the enemy's fire-power is concentrated only inside a building or other objective which he has transformed into a strong point or center of resistance, the storm must be sudden, without artillery preparation. In such circumstances, artillery preparation would have no effect.

Nevertheless artillery must be brought into action in the course of the storm. Small caliber guns, supported by antitank rifles, brought forward at night or behind a smoke screen after detailed reconnaissance, can effectively belabor the enemy's firing points. These guns, moved forward suddenly to a previously chosen position, should give cut-off fire and paralyze the enemy's attempts to assist the garrison of the objective to be stormed.

One method of giving artillery support to a storm without sacrificing the suddenness of the attack may be noted here. Commander Korishny made an artillery attack on firing points in the depths of the enemy defense ten minutes after the storming groups had forced an entry into the objective—instead of before the storm or at its beginning.

Skilful support of the shock group by tanks which fire point-blank at the loopholes, or undermine buildings by their fire, considerably increases the force of the attack.

Other weapons must also be widely employed to give support to the shock groups.

Some commanders have raised the point: "Darkness or smoke screen?"

Our answer is: "Both." The important thing is that during operations under cover of darkness or behind a smoke screen, the commander should be sure to keep the directing of the battle in his grasp. That is the essential problem.

"Railwayman House" was stormed under cover of a smoke screen. The screen held for 13 minutes and hid the movements of our groups, storming from the south, from three German blocks pushed out on their flank. That was just what we wanted. The smoke did not interfere with the directing of the operations.

In the storm of the "L-shaped house," darkness made no difference to the direction of operations. Here the storm began at first light, but the initiative was ours, and the concentration was carried out in complete darkness. Flares were used.

Underground mine attacks are undertaken if an approach to the objective by other means would entail unnecessary losses. Our shock troops are employing this method with increasing frequency. There is only one thing to be said: *Be daring!*

The sapper is an important figure in street fighting. His place in the shock group is a place of honor.

Such, approximately, are the tactical problems relating to the operations of storming groups. They are born of the basic factors of all fighting—speed and surprise.

Sovfoto

Tank-Infantry Attack

*by Major General M. Koroleu, Red Army**

Plan of Operation

THE chief aim of infantry-tank coöperation is to effect simultaneous blows at enemy personnel, support points, and centers of resistance. Such blows can be planned in detail and organized in advance for only the first stage of a battle. Once the enemy front line defense has been broken through and the primary objectives achieved, problems of coöperation must then be solved on the spot in accord with the ever changing battle situation.

The infantry first tries to break-through enemy defenses and take up initial positions for attack as near the enemy front line as possible in order to strike short decisive blows in coöperation with the tanks. On favorable terrain, initial positions may be some 200 meters from enemy trenches. At times, when the general situation and terrain make early concentration along initial positions for attack either impossible or inadvisable, infantry will be brought up while the artillery barrage is still in progress and will be moved forward within a kilometer of the enemy lines.

Tanks must drive through battle formations of infantry while the latter is concentrated along initial positions for attack. This moment in the coördination scheme must be thought out carefully beforehand. Infantry cannot await armored vehicles in initial positions, and tanks in their turn cannot stop until the infantry is ready. The situation may be such that the infantry will be obliged to start the attack immediately after the march. Even in that case, however, it is important to launch the infantry attack simultaneously with the tank attack. The assault begins all along the line at an hour determined by the commanding general. Depending on the distance that they must cover, the tank detachments leave their initial positions at different times, but they attack simultaneously.

An artillery barrage coupled with powerful air attacks will undoubtedly disorganize the enemy's defense system, but he will certainly take measures to protect his infantry from artillery and aircraft action. It is a well known fact that during Soviet artillery preparation, the German command shelters its personnel in blindages and leaves only observers in the trenches. As soon as the barrage dies down, the German soldiers return to their posts. For this reason, stereotyped tactics should be shunned in organizing a break-through, and a prolonged artillery bombardment may not always be advisable.

Sometimes, when sufficient artillery guns and plane service are available, it might prove advantageous to thrust simultaneously with tanks, infantry, artillery, and planes without any sort of preliminary bombardment. In many cases, it will be found best to employ a moving barrage strengthened by air attacks to ensure successful tank and infantry assault.

The choice of break-through tactics must be made in relation to the situation. Movement of tanks towards initial positions should not follow a stereotyped

*Armored Corps.

pattern either. It might sometimes prove profitable, for instance, to establish tank concentration areas some distance from the front and have armored vehicles remain in initial positions for attack for not more than 30 minutes.

Enemy minefields, which prove serious obstacles to attackers, should always be taken into account. The plan of operation must indicate methods by which landmines are to be rendered harmless.

Mutual Support

The next item in the coördination scheme is the support to be rendered tanks by infantry weapons—field pieces, mortars, antitank rifles, machine guns. Crews must have a clear conception of the points to be attacked and the task facing the armored vehicles, while tankmen must be informed of the fire tasks of infantry weapons. Mortars, field pieces, and antitank rifle fire are all coördinated with tank action.

In a break-through operation, infantry and tanks strike simultaneous coördinated blows. After negotiating forward positions, the infantry points out to the armored vehicles such targets and attack objectives as appear on the battlefield. Tankmen, on their part, inform infantry of antitank ditches and other obstacles that they encounter.

It must be emphasized that without dependable signal service, coöperation is out of the question. Under modern conditions, wireless is the most reliable signalling device. Dependable two-way wireless communication must be established between infantry and armored vehicles. If infantry possesses no radio sets, the officer commanding the tank unit must detail a liaison tank to the infantry regiment or even battalion. By means of this liaison machine, the rifle unit commander remains in constant communication with the supporting tanks. Another possible method for tank-infantry communication is to equip the tank with a short range but reliable battalion set.

Tankmen, moreover, should keep to within 200 to 400 meters of the infantry in order to be in a position to observe infantry action. In case all communication means fail, the tank commander should send his machine to the regimental or battalion commander. If the situation permits, the infantry commander may keep in contact with the armored vehicles by means of runners or groups of automatic riflemen.

It takes time and effort to gain possession of enemy forward positions and centers of resistance. Even after an intensive artillery barrage and air bombing, the enemy will retain sufficient fire resources to offer resistance to attacking infantry and tanks. Remaining bunkers, containing two or three machine guns each, may harass or even stop advancing riflemen, and the possible effect of these bunkers should always be borne in mind.

It is a well known fact that the Germans strive to separate Soviet infantry and tanks by means of fire from bunkers. During a recent break-through operation, Soviet tanks negotiated barbed wire entanglements and trenches, and drove past the defense line, but the infantry was stopped by fire from the bunkers. The tank commander then sent several machines to remedy the situation, but they proved incapable of coping with the enemy firing points. He then drew upon his reserve and with himself taking part in the action against the bunkers, had the tanks open withering point-blank fire that smashed enemy fortifications. Only after firing points had been destroyed was the infantry able to proceed.

Tanks entering an enemy defense zone must fight on even though infantry may have tarried behind. Part of the machines should return to help the riflemen, but the task of the main body of tanks is to hold the captured ground and neutralize the enemy fire until the infantry comes up to consolidate the success. There have been occasions when a whole tank unit returned to help the infantry, while one company would have been sufficient.

Flexibility

Following is a short account of a battle in which a Soviet tank unit had battered the enemy pill boxes until they were razed to the ground. The attacking force came up against armored firing points—German medium and heavy tanks, buried in the ground. The process of reducing these improvised pill boxes demanded an intensive three-hour effort on the part of Soviet tanks, artillery, and infantry. Only after the enemy firing points had been silenced was the infantry able to push forward.

On the whole, the struggle along the enemy's front line proceeded according to plan. As usual, however, fighting on the inside of the enemy defense zone deviated from the prearranged scheme. 1st Lieutenant Kresov, commanding the tank company, took the initiative in launching a flank and rear attack on an important enemy center of resistance which was hindering the advance of one of the regiments of a neighboring division. The attack came at the moment that the enemy battalion was marching up to reinforce the center of resistance. The tank company destroyed the enemy bunkers and raked the infantry battalion with fire. This done, Lieutenant Kresov turned his machines and, finding himself on the flank of another enemy reserve column of 300 men approaching a tactically important height, he immediately pressed forward in coöperation with the infantry.

Effective action of Soviet tanks and artillery employed against enemy bunkers and pill boxes completely annihilated this enemy reserve detachment and ensured the swift advance of the infantry. Proceeding to fulfil its mission, the tank unit then assaulted a powerful center of resistance inside the defense zone, garrisoned by German sappers. The attack was again carried out in close coöperation with infantry and an artillery brigade, which happened to be nearby. Blows at the

center of resistance and both flanks led to its destruction.

The point to be emphasized in an analysis of this particular battle is that various arms of the service coöperated according to a prearranged plan, but in such a way as to meet the requirements of each situation on the spot. Coöperation was organized swiftly, and fighting commanders made full use of such battle resources as were in their possession.

It must furthermore be noted that coöperation was effected by means of liaison tanks and ordinary runners. The momentum of the advance increased with the progress of the fighting until it had reached 20 kilometers on the day that the engagement described took place. Despite this fact and the constantly changing situation, communications were never disrupted, because all arms of the service were well equipped with principal signalling means and were thoroughly familiar with the battle mission assigned to each. Not being in wireless communication with the tanks, the infantry transmitted its requests to the tank commander through headquarters or by means of liaison personnel and runners. The tanks, operating in close coöperation with the infantry, never drove too far ahead and kept constantly in touch with the riflemen. When the situation so demanded, liaison tanks were sent toward the infantry. Coöperation thus established between various arms ensured the successful termination of operations.

Tank Maneuvers on the Battlefield*

by Major A. Zvorykin

MANY tank commanders have shown that victory can be achieved by skilful maneuvering even when the enemy has superior forces and the possibilities of tanks are definitely limited.

During July of 1943 the Germans made a mad rush at a village on the Belgorod sector of the Soviet-German Front. Although their main drive consisted of a direct frontal attack, they attempted at the same time to use tanks to envelop the village from the flanks, and thirty of their heavy and medium tanks attacked on the Soviet left. On this particular sector Soviet artillery was not over strong numerically, and the Soviet commander, Captain Melnikov, with only six medium tanks under his command, had the task of repulsing the attacks.

With the enemy forces outnumbering them five to one, the tankmen realized that the situation was unfavorable for a direct counterattack. There was, however, nothing else to be done; so the success of the counterattack had to depend on skilful maneuver. Knowing the direction of the German attack, the company commander selected his own battleground, where it would be possible for him to deploy his tanks quickly from the road and where some of the tanks could reach the enemy's flank under cover of the hillside.

Timing their actions carefully, the Soviet tanks went out to meet the enemy, and the maneuver was brilliantly accomplished. Four tanks deployed from the road and, firing as they advanced, delivered a frontal attack on the enemy, while two others passed through the woods and approached unobserved from the flank.

The skilful maneuvering of individual tanks attacking from the front was one of the deciding factors in the outcome of the action. The tanks first maneuvered along the rear slopes of the hill, then appeared at the crest, fired, and again disappeared. This method of attack made the Soviet tanks invulnerable and created the impression among the Germans that they were being attacked by a larger number than actually existed.

Another case of tank maneuver which resulted in the capture of an important enemy center was executed by Major Silchenko's tank battalion plus motorized infantry. Going into action, they wiped out a large number of enemy officers and captured guns, transport, and other stores. At that time the Soviet troops, conducting a successful offensive, were approaching a town situated on an important railway line. The enemy hurriedly began to fortify the town for defense by laying minefields on the eastern approaches, bringing up artillery reserves, and building a system of blockhouses.

Major Silchenko gathered all necessary information about the enemy and carefully worked out a plan for the capture of the town. The main feature of this plan was an extensive enveloping movement in which the tank battalion made a thrust from the direction that the enemy least expected—from the rear. The tank attack was both sudden and tempestuous, so that the Germans had no time to turn their guns in the direction of the Soviet tanks.

During the battle, the commander kept a close eye on the enemy. When the Germans moved their tanks to attack Soviet forces from the rear, the commander used his light tanks, which he had held in reserve, to deliver a counterblow. The railway station, which was the center of resistance, was captured in a few hours.

The art of maneuvering lies in the ability of the commander to select the method of action required by the concrete situation and to bring it swiftly into effect so that he may paralyze the enemy counterattacks in their embryonic stage. The best planned maneuver may collapse if carried out too slowly. The decisive factors in maneuver, therefore, are suddenness and speed of action.

In maneuvering, the commander often places himself in a difficult situation—opens his flanks, and cuts himself off from his base. For this reason, maneuver requires constant reconnaissance, good communication, and excellent direction.

*By cable to The CAVALRY JOURNAL from U.S.S.R. War Department, Moscow.

German Accou

AA Cannon vs. American Tanks*

IT was 3:30 P.M. Suddenly the AA platoons discovered, on the heights ahead of them, two tanks that at first they took for German tanks. They had no time for closer examination since a few Spitfires, which suddenly broke out of the clouds, attempted to strafe them in their positions with the plane weapons. They fired their first rounds, but German pursuit planes immediately rose and the "English ghosts" were driven away without being able to do much harm.

The troops were still searching the sky with their eyes. They still followed the flight of the German pursuit planes. Suddenly they saw a Messerschmidt 109 plunge down upon one of the two tanks and open fire on it. At the same moment they recognized about twenty tanks rolling down on them, broadly deployed and spaced in depth.

A cloud of dust hung like a smoke screen behind the advancing tanks. Six of them could be distinguished clearly. At about 1,300 feet they recognized the yellow star on turrets, the American airplane insignia, and immediately our guns began hammering out their exact, comforting tak-tak-tak against the earth colored, onrushing tanks. They would not be stopped. They deviated not an inch from their course. "Hard boiled!" This thought went through the minds of the men, and "hard boiled," or so they thought they were, the frightful monsters continued to roll toward our men. The gun layers concentrated on certain tanks—they were perhaps some 600 feet away now—with accurate aim.

The first of them was soon on fire. It stopped; deadly black clouds of smoke covered it. The rest, firing from their gun turrets, continued to advance. The light AT cannon gave them all that their barrels could give, and that was no small thing.

A second tank caught fire. A burst of flame came from it. Two, three men climbed out of it. They were swallowed up in the advancing cloud of dust. But the remaining tanks were getting dangerously close. Machine gun bullets were singing around the gunners, and shells from the tank cannon were bursting among them. But they remained unflinchingly at their posts and continued to fire, the steel of their shells striking the tanks at close range.

The American tanks were now but 200 feet away, and again one of them was brought to a halt. The leading tank then turned off and the second followed it. Finally seven other tanks recognized the hopelessness of their venture. In turning off, they displayed their sides with the gayly painted star-spangled banner on them.

In another place, however, with the second platoon, other tanks succeeded in rolling through our gun positions. But the guns, continuing on their heels with their fire, knocked out two tanks and forced the remainder to turn off their course. Only one of them roared senselessly toward the near-by highway, and our concentrated fire soon set it ablaze. It dragged its deadly trail of smoke behind it for some 150 feet and then stopped, helplessly exposed to the annihilating fire. The crew was taken prisoner.

That was our first encounter with Americans.

*Translated at the Command and General Staff School, Fort Leavenworth, Kansas, from a German article in *Völkischer Beobachter*, December 1, 1942.

Press Assn.

The caption on this picture, received from a neutral source through London, May 3rd, describes it as a German gun post on the Tunisian front, with the famous Ksar den Khrdache in the background. The gun is a Flak 38 (rebuilt Flak 30) and fires a 20mm shell.

...uts of Combat

First Day of Battle Along the Donez*

FRESH, well equipped enemy divisions with their ranks filled were at first to lead the attack on Kiev, but were now bending their efforts to the construction of a defense system such as would satisfy the desires of soldiers of their type. The land along the Donez River, beyond the gradually sloping east bank, is a labyrinth of marshy depressions, tributary streams, lakes and ponds. It is only in a few places that a successful attack is promised by the presence of bridges and solid land—an attack such as is necessary for the formation of bridgeheads as the prerequisite of successful operations between the Donez and the Don—and these places had been built by the Russians into key positions.

Neither the small stream nor the village are shown on large maps, but their names are burned in the hearts and memories of the infantrymen of the Lower Saxon Division which was to form the bridgehead that day. The village of M... had been made into the central supporting point of the Russian key positions in the knowledge that the German command would conduct one of the most decisive attacks in this place.

Now, forced over to the defensive, the Russians had thought out a new manner of employing their rolling, armored monsters. Around the village of M..., a fortification consisting of a circle of brown tanks was established. Their bastions were the artillery positions and their communication trenches and defense lines were represented by the field positions.

The Soviet command had not given up the thought of taking advantage of the mobility of their tank forces. Rather, they planned in case of a German tank attack (on which they certainly counted) that the Bolshevik tanks would come out of their earth positions and be used in a counterthrust against the infantry following our tanks. This was to be accomplished after the brown Soviet tanks, from their cover, had shot up our attacking tanks one after the other.

In place of this, there descended on the Russian key position, in the gray light of early dawn, a rolling artillery barrage that had not been anticipated in such intensity. In the concentrated fire of 130 guns the Soviet infantry was broken in this sector, and was beaten down by thousands of shells. But instead of the expected tanks, it was the German infantry that moved forward to the attack. The Soviets made one last effort. They rolled their tanks out of their pits and started a counterattack. The first six were shot to pieces by the antitank units of the division, and the second wave, consisting of five tanks, fared no better.

Black Star

German SS troops move an antitank gun over a fascine road in Russia.

Because of this assistance, which had been provided in advance by the command, the infantry made good progress in its advance. What artillery the Russians had left, was held down by continuous employment of the Stukas. It was a great day of battle, such as the men had been wishing for during the months of the devastating winter operations and during the days of defensive operations east of Kharkov.

The thing that had to be done now was to form a bridgehead. If we succeeded in getting the bridge into our hands undamaged, it would mean not only a gain of many hours before the engineers could complete the war bridge, but also it would mean relief for those portions of the infantry that had already reached the far side of the river and whose flank was threatened by stubborn enemy resistance.

With the bridge in German hands, the armored forces, which were all ready for action, could dash ahead and be employed in crushing pursuit of the enemy. We succeeded. The regiment on the right was closest to the bridge. The engineers attached to the regiment were sent out ahead of all others.

When they were close to the bridge, which was all prepared for blowing up, a lieutenant gathered all available engineers and infantrymen together and risked the dash across. The Russian blasting detachment was still engaged in its work. The lieutenant succeeded in taking them prisoners and in cutting the detonating conductors.

While the lieutenant was getting ready to make the dash across the bridge, a sergeant from the same battalion of engineers sprang into the water and tore the explosive charges away from the bridge supports. Thus the bridge fell unharmed into German hands.

At 2:15 A.M., the attack began. At 10:00 A.M., both bridges and bridgehead were safely in German hands and tanks were rolling across into the country between the Don and the Donez.

*Translated at the Command and General Staff School, Fort Leavenworth, Kansas, from the German article, *"Was wir erlebten in diesem Jahr im Osten. Der erste Tag der Schlacht am Donez."* From *Die Panzertruppe*, September 1942.

ENEMY PROPAG

"Hitler's most powerful ally, the very basis of his victories, has been the ease with which he could divide his enemies by playing upon the dislike and distrust of one nation, or race, or religion, or party for another."

THE Axis powers have declared that this is to be a total war, and we have every reason to believe that they mean it. Just what is a total war? It has been said that modern warfare rests on four pillars.[1] These include all of the elements of total warfare. They are:

1. Production
2. Transportation
3. Combat
4. Morale

It is apparent at a glance that production and transportation are essentially civilian tasks, combat is the primary military task, and morale is a quality required of both civilian and military personnel.

Production, transportation, and combat are factors which existed in all previous wars. In modern warfare we have merely specialized the several activities so that separate groups of individuals conduct each type of activity.

Our particular interest lies in the factor called "Morale." This has always been present in wars as it is today, but only to a relatively small degree. In present day warfare its importance exceeds probably any other single factor. The approach to the mind of the enemy takes on an importance it never achieved before. Wars are no longer merely physical in character, but psychological as well.[2] It therefore becomes the mission of the enemy to lower our morale and raise his own, as it becomes our objective to lower his morale and keep our own at a high level.

Morale may be said to be a state of mind which permits men, despite obstacles and defeats, to struggle on toward their goals. It is a form of faith in the ultimate victory of a cause, even though the individual or group may perish in the fight leading to the victory.

Characteristic Enemy Propaganda

The greatest morale breaker in existence is enemy propaganda, aimed at destroying faith in cause, leadership, and possibilities of victory. Every difference, real or imaginary, is exploited by the enemy in his attempt to govern the mental reactions of our people. He has had certain successes.

One of the earliest pieces of German propaganda was concerned with selling to the world the thesis that German arms are invincible. The purpose of this is apparent. If the Germans are invincible, then why fight them? It is an effort to weaken the fighting will of the opponent by making victory appear hopeless. The armies of Russia have destroyed this myth so completely that further comment is unnecessary.

The Japanese have permitted us to view them as the great imitators of modern times. When Commodore Perry opened the Japanese islands to the Western world in 1853, he found a feudal and agricultural society. The Japanese adopted the easiest method of learning from us, that of imitation. They were then the great imitators. That situation long ago ceased to exist. The

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[1] *The School of the Citizen Soldier*, by Second Army.

[2] *Methods of Psychological Warfare*, by Lt. Colonel F. E. Gillette, Command and General Staff School, Fort Leavenworth, Kansas.

GANDA

*by Major Fred Herzberg and Captain Willard M. Wallace**

Japanese have become original in many ways, including some of their methods of fighting. It is as dangerous to look upon them as imitators as it was to look upon the Germans as invincible. The danger lies in accepting them as easy marks, and consequently not exerting our best efforts in opposing them. Underestimating the enemy is as dangerous as overestimating him.

That the Japanese are a dangerous and potent enemy has been stressed many times. Among the best authorities on the subject is former Ambassador Grew, who said, "Probably no other factor has contributed more heavily to the preliminary victories achieved by the Japanese in this war than the offensive spirit which permeates all of the armed forces of the Empire. This spirit, recognized by competent military men as the most vital intangible factor in achieving victory, has been nourished and perpetuated since the foundation of the modern Japanese Army."[3] They are indeed formidable if this is true—as it appears to be.

"Divide and Rule"

It is the desire of the Axis that we and our Allies of the United Nations be separated from each other. A divided fighting effort on our part is of distinct advantage to our enemy and makes his task ever simpler.

The Japanese have adopted the anti-white technique in the Far East, and played upon all of the anti-white prejudice of that region. That they should use such propaganda is certainly understandable, but that we should help them is deplorable. They are trying to make this a race war, which it very definitely is not. How many of us have unwittingly helped them? Whenever we refer to them as "those little yellow bastards" we are encouraging the race war attitude. Expressions of that type should be eliminated. We are not fighting the Japanese because of the color of their skins. There are far more yellow-skinned peoples on our side of this war than on theirs.

Most of us have looked upon the Chinese as being "different." Our distance from them has prompted such an attitude. "Because the Chinese live on the other side of the globe; because they wear white instead of black for mourning; because their books begin on what would be the last page of ours; because their family names come first instead of their given names . . . they used to be regarded as people who stood on their heads.[4] Any so-called "differences" between the Chinese and ourselves are certainly most incidental and of no consequence to the conduct of the war.

The effort to separate us from our Russian allies has met with considerable success in many places. Germany has actually had the crass nerve to say that she is the bulwark in Europe against the Russians. Too often we forget that the Germans attacked the Russians, not the Russians, the Germans. The Red Scare is an old technique, and the Germans will use it more and more with each mile that they are pushed westward by the Red Army. Wendell Willkie stated it well when he said, "Whatever our views may be about Communism, Russia stands today as the savior of democracy in Europe. Had her resistance been less stalwart, it is difficult to see how Naziism could have been brought to the defensive."[5] We must not be fooled into non-coöperation with the Russians when our problem is fighting the Germans.

Name-calling and labelling with words are old propaganda techniques which have been used with great success. The scapegoat technique was born in antiquity and has been used routinely on all peoples and during all ages. Its purpose is to accuse a group, generally a minority, of being the cause of all evil. It works on the assumption that human beings will forget their difficulties if they can be persuaded to wreak vengeance on other humans. It has been used internationally by the German propaganda machine.

In France the people were told that they were fighting for the British and, of course, that "Britain would fight to the last Frenchman." This served the purpose of removing from many Frenchmen their reasons for opposing the Germans. They did not want to fight for England. Those Frenchmen who still fought the enemy were hampered by their fellow citizens and their talk and actions. France was thoroughly divided by this and other means. The results speak for themselves. The groups who argued so loudly are not able to speak above even a whisper now. They are no longer groups but rather isolated individuals. The Germans did a thorough job of division.

The same technique has been used on us. We have all heard the accusation that we are fighting to preserve the British Empire. The accusation itself is quite incidental, but the fact that we take time out now to argue the point is not at all incidental. While fighting amongst ourselves, we use energy which should be utilized to fight the enemy. That we are fighting to preserve the British Empire may be quite summarily dismissed by the reminder that Pearl Harbor, Dutch Harbor, Wake, and the Philippines did not belong to the British.

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[3]*The Japanese Are Tough*, Radio Address, August 30, 1942, by the Honorable Joseph C. Grew.

[4]*The Thousand Million*, Office of War Information, Washington, D. C.

[5]*Friends for Tomorrow*, by Wendell L. Willkie, from This Week Magazine section, Chicago Daily News, February 13, 1943.

*Department of Training, Medical Field Service School, Carlisle Barracks, Pennsylvania.

Our Allies

Who are our Allies of the United Nations? How many of them are there? What are their characteristics in combat? Our allies number upward of a thousand million people, representing every race, creed and color, and belief of mankind, and every area and continent inhabited by man.

The Chinese, for over six years, have fought against the Japanese. They have fought with bare hands and bamboo poles against a superbly armed enemy. They have not only fought but have inflicted tremendous losses and drained equipment and men on a vast scale. When the war started, the great bulk of Chinese industry, schools, and population was concentrated along the seacoast, and along the two great rivers. As the Chinese retreated into the interior of their great country they moved with them their industries and their schools. They walked hundreds of miles, and they carried their belongings on their backs and in their hands. They died like flies, but they marched and fought on. Today they have established industries and institutions of learning in the interior, and these on an unprecedented scale. They still fight on. They still die by thousands; but the Chinese will never be defeated. These people are our allies.

The Czechoslovaks were denied the opportunity of formally fighting their enemies. Their armies were demobilized and the country tragically occupied without resistance. Under such circumstances one would normally expect that the Czechoslovaks would have had their morale destroyed. But this reaction failed to occur. In fact, the very opposite happened. The soldiers fled, many of them, to other countries. But they fled to fight another day. Today they fight on many fronts with other United Nations troops. But the real heroes of Czechoslovakia may turn out to be those who remained behind to fight. The first group have at least a soldier's chance. The second fight alone. Under cover of the blackout they remove pieces of machinery to cripple the war production of the Nazis.[4] Their sabotage, if detected, would lead to their death, at the very least. Reprisals on the family of such a person would not be at all surprising. Hostages have been executed for less cause than sabotage. It takes a peculiarly high type of courage to risk one's family. These people are our allies.

To describe the staying power of the Russians, their ability to take the offensive, and their high morale, can hardly be done in words known to us. President Roosevelt said, "Russian forces have destroyed and are destroying more armed power of our enemies—troops, planes, tanks, and guns—than all the other United Nations put together." These people are our allies.

While most of us were wondering whether or not we would ever be in this war, and whether or not it was proper to trade fifty over-age destroyers to England, the British were holding their islands, and much more, against the Axis. The bulk of the total casualties of the British Commonwealth of Nations came from the British Isles. The Axis would have us believe that only the Colonials did the fighting. The British held the Germans at bay across the Channel despite the terrific bombardments inflicted upon them. British morale and fighting spirit maintained itself against all odds while awaiting help from the outside. And these people are our allies.

The Termite from Within

The Axis finds it not only necessary to separate us from our allies but also to separate us from each other. The latter is an especially dangerous weapon in any country. Its intent is to play upon the prejudices, hatreds and various types of "natural" conflicting interests between groups. It takes advantage of all real and fancied grievances. By doing so, it gets the benefit of having the intended victim exhaust himself in internal dissension.

"Before Hitler attacks any country, his agents carefully sow seeds of hate and disunity—turning people against their own governments, governments against their allies, class against class. . . . In the early days of the war, before France was invaded, morale was lowered by professional weepers, clothed in deep mourning and wailing loudly, who wandered into subways and onto busses in Paris spreading the false belief that French casualties were enormous. Mothers received mysterious postcards informing them that their sons at the front had either been killed or were deathly ill. Soldiers received anonymous notes saying their wives or sweethearts were unfaithful and had run off with British soldiers."[5]

Group is set against group to produce as many subdivisions in the population as possible. The following quotation illustrates the system used: "For most evil, the Jews were to blame. Business is bad? Labor is to blame. Wages are low? Capital is to blame. War is hell? The British are to blame. Everybody was to blame *except* Hitler—the common enemy who would crush them all. National unity was destroyed by setting group against group. In Belgium, Nazis told the French-speaking Walloons that King Leopold was pro-German and was preparing to sell out Belgium to the Nazis; they told the Flemish that King Leopold had a secret treaty with the allies and was ready to declare war on Germany."[6]

Spreading terror is a vicious modification of the dividing technique. Its purpose is to put the victim on the defensive, to make him uncertain and afraid. It is the "War of Nerves." We all remember the system when it was used against Belgium. The newspapers reported the presence of large German forces over the border one day and their complete absence several days later. This process was repeated several times. Were they going to attack? The question was uppermost in the minds of the people. It is easy to understand the tre-

[5] *Divide and Conquer*, Office of Facts and Figures, Washington, D. C.

mendous tension generated by such uncertainty. Such tension could be, and was, easily released in the form of discussion amongst the intended victims. It helped to divide the population.

The tactics generally used against all countries attacked by the Axis are used against us, too, and are well summarized in a statement of the Office of War Information: "To destroy our national unity, create unrest in all groups of the population, and deflect us from the major purpose—th defeat of the Axis—Hitler is trying to set capital against labor, white against Negro, Catholic against Protestant, Christian against Jew. He knows that prejudice, in any form, plays his game."[6] It would be well for each of us to remember this whenever we criticize others for their beliefs, their jobs or their color.

"Hitler's most powerful ally, the very basis of his victories, has been the ease with which he could divide his enemies by playing upon the dislike and distrust of one nation, or race, or religion, or party for another. Particularly have two 'hates' served him: anti-Semitism and Anglophobia. He is still making immense use of them. To meet this danger we must face it, study it, understand it, not deny its existence; must admit our liability to this kind of infection, our tendency to seek devils to hate as an emotional relief, and scapegoats to blame as a means of escape from recognition of our own faults and obligations."[7]

The Officer's Duty Regarding Propaganda

It is the duty of every officer to see that his men are instructed in the methods and purposes of enemy propaganda. This is known to be done on a large scale by the Russians,[9] and by the Germans, who have made a science of military morale.[10] The men must be cautioned, in their own interests, to avoid picking up and distributing rumors.

Instruction in why we fight, including showings and explanations of the films entitled "Why We Fight" must be conducted. Explanations concerned with the subject matter of these films should be mandatory. Orientation talks should be given at frequent intervals. "War begins and ends, not with dive-bombers and tanks, not with equipment and supplies, not with maps and terrain, but with human beings."[11] These human beings want to know what is going on; they are intimately involved! Every effort must be made to indoctrinate the soldier so that he may evaluate for himself what he hears and sees.

That it is the policy of our army to safeguard our troops and the entire nation must be apparent. Circulars have been issued on the subject.[12] All officers must make it their purpose (morale is a function of command) to instill a healthy respect for our country and a deep faith in our ultimate victory. To accomplish this, our soldiers must, above all, know WHY we are fighting, and what the personal and national consequences of our defeat would be.

Every American has been raised on the ideals of democracy. Each of us interprets this democracy with a somewhat different shade of meaning. But aside from the varying concepts, the basic principles of what each of us means are really identical. Our common ground might be accepted as being the abstract rights of free speech, free press, universal suffrage, freedom of religion, and a common set of traditions. We might reinforce these ideals by certain common, more tangible factors. The now proverbial Minute Man, the gruesome struggle at Valley Forge, the fight to preserve the Union, the freeing of the slaves, the opening of the great West are historic examples of the American's fight for his kind of freedom.

Another common ground often overlooked, is the fact that we are all the children of immigrants, differing here only in point of time of arrival. It might be safe to say that from the earliest colonists up to the present, the principles of the fight for freedom have always been present. We have with us the descendants of the oppressed peoples of almost every country in the world.

These have brought us the best of the human and cultural achievements of the Old World. These we have embellished with our own accomplishments. We have, in return, given to the rest of the world our distinct scientific, cultural, and industrial developments.

We have become renowned for the jealous defense of our attainments. This jealousy may at times have been so deep-seated that it defeated our own purposes and objectives. We have devised checks and balances and restrictions of many kinds, but their object has always been the greatest good for the greatest number. At various times in our history our vigilance has taken on different forms. The change of form was necessary in view of the changing conditions under which the world lived.

We may depend on our military forces, drawn from the ranks of the people, to preserve the rights of the people from whom they have risen.

It is significant that not only does our army represent every walk of life, but also the many nationalities which have gone into the making of our country. Our duty to bear arms, and our privilege of bearing them with men who have been reared in the traditions of human rights, offers us an opportunity to carry forward the best traditions of our own and other nations. At the same time we should be keenly alert to detect and counteract any attempts by enemy propaganda to disturb the unity which we enjoy as a people and as an ally of the United Nations.

There are many ways to win a war. Motivate the American soldier. This war will not be won by guns alone.

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[7] *Let the People Know*, by Norman Angell.

[9] Leland Stowe, *Chicago Daily News*, November 16, 1942.

[10] *German Psychological Warfare*, Committee for National Morale.

[11] *Psychology and the Soldier*, by Norman Copeland.

[12] *Training Circular* 99, *Safeguarding Military Information*, W. D., Washington, D. C., December 4, 1942.

Training While Testing

*by Major Franklin M. Davis, Jr., Cavalry**

THE BATTALION TESTS now being conducted in the II Armored Corps are checking the technique of small unit operations in combat situations, as well as providing higher commanders with an accurate index to the capabilities of troop leaders and to the prospective combat efficiency of the units concerned.

Based on Army Ground Force directives, these tests, drawn up by Lt. Colonel A. D. Surles, Jr. (Cav.) and Lt. Colonel James B. Quill (Cav.), have proven invaluable as a check on unit and combined training, and as combat practice for the troops concerned. Every effort has been made to maintain realism, keep artificial control at a minimum, and to permit all commanders actually to handle their troops throughout.

Scheduled for all units of the II Armored Corps, whether divisional or non-divisional, the tests are scaled according to the training status of the unit concerned. Thus far, battalion combat firing tests were conducted for the 6th Infantry Division, while battalion field exercises, involving no firing, were conducted for the 13th Armored Division, and reinforced battalion combat firing tests were run for the 6th Armored Division.

In the 6th Armored Division, reinforced battalion combat firing tests were staged at Camp Cooke for each tank battalion and armored infantry battalion of the division. Basically, the tests for the two types of battalions were the same, and only slight changes were necessary to fit the tank problem to an armored infantry battalion.

The battalion—reinforced with a company of infantry, a battery of artillery, a platoon of the regimental reconnaissance company, and a platoon of armored engineers, in addition to the normal medical, maintenance, and service elements from the parent regiment—was acting as a flank guard for the armored division.

In the execution of the combat firing test, the battalion was required to make a short march to a rear assembly area, move at night to a forward assembly area, attack an enemy force occupying a hasty defensive position behind a minefield, rally, and reorganize.

Ammunition allowances were sufficiently liberal to permit an impressive display of actual fire—40 rounds per rifle, 150 rounds per machine gun, 10 rounds per heavy caliber weapon, and 16 rounds per battery of artillery. Ammunition was reserved from annual combat firing allowances.

*Hq., II Armored Corps.

At dawn a squad of attached engineers widens the gap in the minefield for the passage of more tanks.

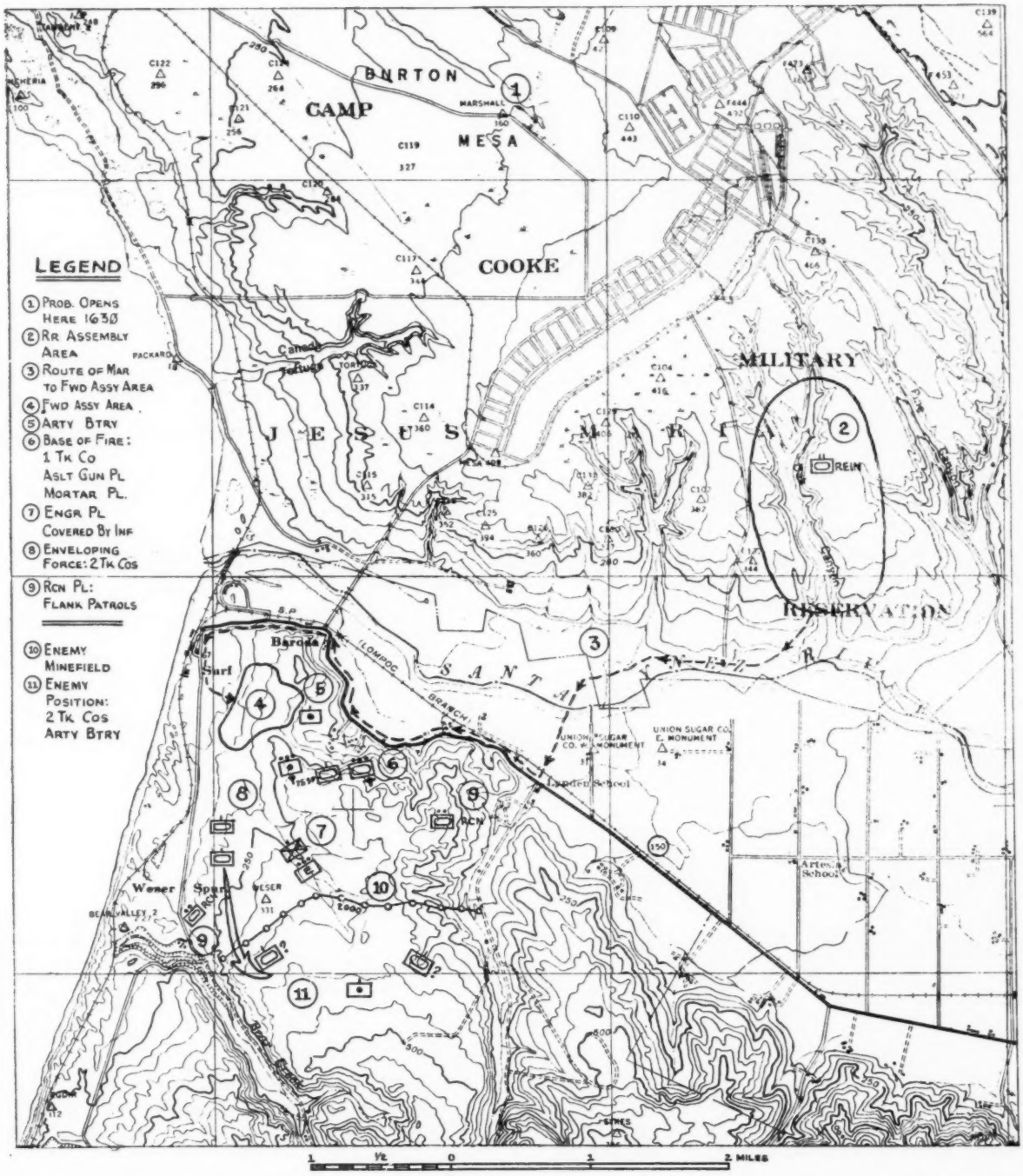
Problem and Solution

Situation (see map). At Camp Cooke, as the problem opened, the enemy was moving in force on Lompoc. The 6th Armored Division, with the battalion being tested as the right flank guard, was moving south, with the head of the battalion at Schuman Canyon. The battalion commander was directed to meet a liaison officer from division headquarters at Marshall at 1630. Upon arrival at Marshall the commander was given a message which read: Obsn. reports enemy force of two light tank companies reinforced with AT guns moving into assembly area half-mile SE Weser, as left flank guard larger force. Move to concealed assembly area in Oak Canyon. Attack and destroy the enemy. Sq. Bomb. Avn. on ground alert at Santa Maria available on call. CG, 6th A. D."

Enemy. The enemy referred to in the message was in position near Weser, behind a minefield that extended from Bear Creek Canyon to Lompoc Canyon. The high ground in the vicinity of Surf was actually occupied by a reconnaissance company, functioning as the enemy counterreconnaissance. Thus, before the battalion commander could reach the high ground to reconnoiter the position he was to attack, it was necessary that he use his reconnaissance platoon to make contact, and his attached infantry to drive in the enemy patrols. Distinctive uniforms and blank ammunition permitted the enemy to add considerable realism to the play, and it required decisive and convincing action on the part of the tested battalion to seize the high ground and permit reconnaissance.

Enemy personnel was equipped with reasonably accurate overlays of the enemy assembly area and minefield, and when prisoners were properly searched and processed, the following information was revealed:

The targets, consisting of thirty tanks, ten trucks, and six antitank guns, in addition to two hundred E & F



targets, were disposed in defiladed positions on the high ground some 1500 yards south of the minefield. All vehicles and weapons were accurate silhouette facsimiles of foreign matériel, constructed by Division Trains, 6th Armored Division.

In addition, the 25th Armored Engineer Battalion, 6th Armored Division, constructed an elaborate demolitions system, which permitted enemy antitank guns to fire, sprinkled the minefield with booby traps to snare the unwary, and salted the terrain with innumerable TNT charges to represent the enemy shell-fire during the attack.

Solutions. Moving to a forward assembly area at night, and scheduling an early morning attack, most battalion commanders elected to put a base of fire consisting of one tank company, reinforced with the organic battalion supporting weapons, on the ridge north of the minefield, and to envelop the enemy west flank with two tank companies.

Artillery. Artillery missions were initially counter-

An M-4 tank roars into the attack during the reinforced tank battalion combat firing tests.

battery fire on the enemy light battery located as indicated on the map, and thereafter on targets of opportunity, while the assault guns and mortars were used on the AT guns. In order to preserve the strict realism of the problem, only east and west safety angles were prescribed for the artillery. No minimum ranges were set, and in the nine tests conducted, the artillery forward observer was able to control the fire so as not to endanger the advancing troops.

Infantry. After using the infantry to outpost the area at night, and to protect the engineers while they blew gaps in the minefield, battalion commanders then ordered them to follow the tank attack and to mop-up, which gave them ample opportunity to use their weapons on suitable infantry targets.

Engineers. The attached engineers, equipped with bangalore torpedoes, blew anywhere from two to four gaps in the minefield, and received considerable practice in marking gaps, widening gaps, and handling the difficult task of preparing passages for tanks.

Supply. In order to check the handling of supply, all aspects of the normal battalion supply problem were maintained. "A" trains, initially accompanying the unit to the rear assembly area, after servicing the battalion, were pulled back for reservicing to an assumed DP, designated in a message received by the battalion commander at 2100 the day of the problem. Kitchen trucks were released to the battalion after dark, and then reverted to division control before daylight.

Ammunition supply was handled by causing the units to issue ammunition in the rear assembly area, and then, to requisition a resupply at the rally point.

Evacuation. Actual evacuation of casualties and vehicles was checked by issuing the umpires casualty tags, which were handed out during the course of the problem.

Communications. Normal communications were maintained, since the parent regiment provided a CW radio set to which SOP reports and other CW traffic was sent from the battalion. Messages ordinarily sent by runner were handled by the umpires at the CP.

Control and Scoring. To preserve the realism of the problem, umpire control was kept at a minimum. Though there were umpires with the battalion commander, battalion CP, company commanders and platoon leaders, they were in no wise permitted to "run" the problem. Members of the II Armored Corps Test Section outlined the necessary administrative details prior to the tests. Once the test was underway, the only control exercised was that which was necessary to observe safety limits and to cause the commitment of company supports and the battalion reserve prior to taking the final objective.

Scoring

In scoring the problem, a cut sheet, carefully detailed and annotated, was prepared for each phase of the problem. The total problem was scored on a basis of 2,000 points, broken down as follows:

Occupation of Assembly Area and Reconnaissance of Routes for Night March, 175.
Night March, Occupation of Forward Assembly Area, and Preparation for Attack, 175.
Conduct of Attack-Engineer Participation, 100.
Infantry Participation, 200.
Tank Attack, 400.
Reorganization, 200.
Supply and Evacuation, 100.
Communications, 50.

The combat firing proficiency was scored on a total of 400 points. Dispersion was scored on a basis of number of targets hit out of the total number of targets, with reference made to appropriate targets for the various weapons. Accuracy score, based on the number of hits for the number of rounds fired, was figured by using the low battalion accuracy score of all battalions tested as a mean, and adding to that figure the actual accuracy score attained by each battalion.

In addition, 200 points were allotted the Chief of the Test Section, to use as a score for the general overall performance of the battalion.

Coöperation

In the tests, the II Armored Corps was not interested in actual tactical solutions. Emphasis throughout was placed on technique, control, and coördination. The biggest training value in the tests came in the execution of the necessary close coöperation between the battalion and attached units in operations, such as blowing and passage of the minefield, in the coördination of artillery and support fires, in close liaison between commanders and troops, designation of specific commanders of mixed units, in the use and control of reconnaissance elements, and in the actual practice of attacking an enemy position under conditions as close to actual combat as the exigencies of training conditions in this country will permit.

Each battalion feels that it will not make the same mistakes again, and is looking forward to another chance—a test, if there is time, or *the* test if there is not.

Battle Training at ARTC

by Colonel M. E. Jones, Cavalry

BATTLE TRAINING at the Armored Replacement Training Center is more than a casual Cook's tour of a combat area. It is, essentially, a down-to-earth application of all the lessons that are taught in the earlier days of basic training. It is theory put into practice—the field manual come to life. The instructional material issued by the Plans and Training Office is the script for this dress rehearsal for the "Big Show."

Trainees crawl beneath a hail of machine gun fire, drive buttoned-up tanks through exploding mine fields, crouch in fox holes while half-tracks rumble over their heads, sleep in pup tents, eat field rations, use the creeks for bath tubs and stay on the alert 24 hours a day lest the "German" platoon, an *ersatz* enemy, round them up and herd them into a concentration camp.

Throughout the area are scattered red-splotched, straw-stuffed dummies—"horrible" examples that graphically illustrate the fate of the soldier who makes a mistake in combat. One of the dummies lies in a coffin at the edge of the infiltration course. A crudely painted sign on the lid warns: "Here lies John Doe; he wouldn't keep low."

On this 60-yard course, trainees crawl toward three .30 caliber machine guns that weave a leaden canopy only thirty inches above the ground. Meanwhile, instructors explode firecrackers, whistle-bombs and small mines among the men who must maneuver around logs, through holes and beneath barbed wire entanglements.

The Armored Command's "fire and movement" method is practiced on the gunnery ranges. Buttoned-up tanks, advancing toward their targets one platoon at a time, just as they would in a real engagement, withhold their fire as they move forward under the protection of other tanks covering their advance.

In the close combat zone the trainees crawl through a wooded area while firing .30 caliber rifles at movable targets. When the targets are jerked from sight the soldiers start springing across a clearing and hit the ground as the targets reappear. Instructors explode mines that have been hidden in the clearing. The trainees learn that a mine is infinitely less harmful if they lie flat against the ground.

Trainees are taught to attain a remarkable degree of efficiency in such simple field expedients as extricating vehicles from mud and in floating a peep across a stream by wrapping it up in a tarpaulin.

Even when they aren't engaged in a field problem the trainees' way of life is that of the soldier on the battlefield. There are no "hours." It's an all-day, all-night schedule. The day doesn't begin conveniently at Reveille and end at Retreat—or even at Taps.

Clad in makeshift, swastika-decorated uniforms, the "Nazi Platoon" impersonates the enemy with incredible accuracy. One of the platoon's missions is to keep the trainees on the alert. Having a half-track and a few motorcycles at its disposal, the platoon makes hit-and-run raids at all hours of the day and night. It may descend on three or four soldiers who are blithely repairing a disabled vehicle, lie in ambush for an unwary patrol or attack a segment of a bivouac area. The platoon likes to make a specialty of capturing cooks and mechanics to show the trainees how much they rely on them.

Captures are made by firing blanks from rifles and machine guns over the heads of the trainees. A referee usually accompanies the platoon to settle all arguments. Trainees avoid capture by firing over the heads of the "Germans." The platoon practices amazing feats of deceit and trickery, and makes effective use of booby traps charged with small amounts of explosive. Often two or three "Nazis" create a diversion and drive the startled trainees into the platoon's main body, hidden in ambush. The platoon, made up of volunteers, speaks German, and thus the trainee becomes accustomed to common battlefield expressions.

Prisoners taken by the platoon are questioned with Prussian thoroughness, and woe to the trainee who is intimidated into divulging more than his name, rank and serial number. The captives are detained in a miniature concentration camp and lectured on their mistakes behind a formidable 16-foot barbed-wire fence.

The mere presence of the "enemy" instills in the trainees the apprehension common to most soldiers when they come in contact with a hostile unit. The platoon's ceaseless patrolling and raiding develops a rare degree of alertness and encourages the adoption of fool-proof security measures.

"The 'Nazi Platoon,' clad in Swastika-decorated uniforms impersonates the enemy with incredible accuracy."

Night Tank Firing Can Be Accurate

*by Lieutenant Elmer F. Slovacek**

"LIEUTENANT, the Squadron goes into bivouac for the night here. You will outpost the area with your tank platoon plus the reconnaissance section of your troop."

There you are, a junior officer of a support troop of a mechanized cavalry regiment or squadron. What is your problem? Perhaps you reach into your dispatch case and pull out FM 100-5 to brush up on the principles of security. The colonel, of course, will be pleased to see that you carry your texts and will not mind waiting while you improve your mind.

On the other hand, having been taught that a cavalryman makes quick decisions, perhaps you immediately gather up the elements assigned to you and proceed with all speed to the same road by which you entered the area. There you dispose everything you have so that a panzer division couldn't come through. Logical, isn't it? You came that way, so the enemy is honor-bound to come the same way. And, of course, he'll never find that crooked little dirt road far over to the other end of the area.

Or, perhaps, you're neither bookish nor brilliant but simply sensible and know that your particular problem is to cover somehow, with something, any possible avenue of approach into your area. You've been given the tools with which to do it. Now, how can they best be used?

One batch of tools is the reconnaissance section. You're not too worried about it, for it works on principles that are tried and true. There are men in that section who may be dismounted to act as your observation posts. There are machine guns that may be dismounted to cover defiles, trails or roads. There are fast, light vehicles that may be used as liaison agents between your outposts. All this you learned while still at O.C.S. or at Officer's Basic. Or, perhaps you were originally in horse cavalry, and have done much the same sort of thing hundreds of times.

But now we come to our other batch of tools. You still have your own platoon—five light tanks. Surely you should be able to make good use of them. 37mm guns and machine guns galore are at your disposal. There is a road net around your area that must be covered and, in these days, you can hardly depend upon a couple of dismounted LMGs. You happily place your tanks so as to cover avenues of approach open to mechanization. To check our story so far against authority, let us look at FM 2-30—Cavalry Mechanized Reconnaissance Squadron. Paragraph 41C tells us that "For protracted halts, such as bivouacs, outposts usually are detailed from the support troop. . . . Obstacles are installed to block avenues of approach open to mechanization. Armored vehicles are placed and their weapons laid so as to defend these obstacles."

Now, however, you begin to think of a dire possibility. Suppose, during the night, your tank weapons, which were laid on one particular spot, are disturbed. That 37mm gun and co-axial machine gun would then practically be worthless to you, for they have no way to relay accurately on a target hidden by darkness. Or, perhaps there are numerous avenues of approach. Perhaps there are three or four within easy range of one tank. Must you then assign a separate tank to each avenue? Obviously you must, since there is no way for that one tank to shift to other targets during hours of darkness. This, then, is the problem of the light tank on night outpost. Yet, surely there are a number of solutions.

In our unit, we went back to what we know about the machine gun to solve the problem. For years, machine gunners have been able to do what we, in the light tank, could not—namely, make out a range card and, using it, fire on any target they had plotted, even though it was obscured by fog, smoke or darkness. What enables them to do this? They have a graduated traversing dial and a graduated elevating mechanism. Very well, the light tank has a turret which has a 360° traverse. We elevate or depress our gun by means of a handwheel which operates a worm gear in the elevating arc. Here then we have all the essentials for evolving a system that will enable us to make range cards and to fire on plotted targets at night. We have only to work out a way to measure horizontal angles with our turret and vertical angles with our elevating handwheel.

Looking at our turret, we see that the gear teeth, which are engaged by the crank, are stationary at all times. The crank simply pulls the turret around on them. Now, if we get into the gunner's seat and look down at the gear teeth to our left front, we can see a zero mark stamped directly above one of the teeth. If, when the gun is centered so that it points directly to the front, a corresponding mark is made on the turret itself, we have something by which we can establish a constant relationship between turret and hull. In other words, we have a way to "zero" the turret on the hull. All of our tanks have long been marked in this fashion in order to enable the gunner to center his turret quickly and accurately.

If, then, we start from this zero mark, we can easily graduate our turret all around in mils. It is a simple matter to measure the inside circumference of the turret, divide that figure by 64, and get the exact measurement you will need for every 100 mils. We simply marked off the turret in hundreds of mils by painting lines and figures along the inside bottom edge of the

*101st Cavalry.

turret proper. We then further subdivided each 100 mil graduation into 20 mil graduations. The 20 mil graduations are far enough apart to permit accurate interpolation. We marked the entire turret off in halves, 3,200 mils right, and 3,200 mils left. The marking proved a bit awkward around the gun-mounting and, right there, the gunner must stretch a little in order to take a reading.

The second difficulty that we encountered is one peculiar to M-5 tanks. As soon as we move the turret of an M-5 to the right, we find that a plate along the bottom left edge of the turret, hides the zero mark on the gear tooth. We overcame this difficulty by simply soldering a pointer directly down from the zero gear tooth. This enabled us to read the azimuth circle all the way around. There is, however, one important thing to remember. With the pointer soldered to the gear tooth, it is not possible to turn the turret completely around since the crank, in engaging the gear, would immediately snap the pointer off. The turret can, however, be traversed at least 3,100 mils right or left, which certainly would provide a wide enough field of fire for any occasion. As far as the M-3 tank is concerned, the pointer might be desirable but is not essential.

Having solved the problem of reading horizontal angles, we turned to that of vertical angles. This we found to be very simple. Directly in front of the elevating handwheel is a stationary bracket which supports the elevating arc. On this bracket, we soldered a pointer that came directly to the rim of the elevating handwheel. Then, running our gun up to its extreme elevation, we painted a zero mark on the handwheel, directly opposite the pointer. We found that the elevating handwheel of an M-5, when turned through one complete turn, moves the gun through a vertical angle of 15 mils. It was then a simple matter to measure the circumference of the handwheel, divide that by 15 and, using the resultant figure, mark the wheel in one mil graduations, from zero to fourteen.

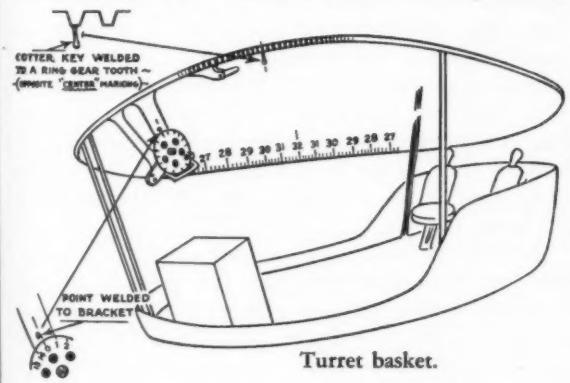
Now, in order to get the reading of a vertical angle for his range card, the gunner can simply run his gun up to its extreme elevation and then, turning slowly, count the number of complete turns plus the number of graduations that he must take in order to get on his target. At first we considered counting simply the number of complete turns plus a fraction of a turn. Graduating the handwheel insures much greater accuracy.

Data for a range card will then read something like this: "Cross Read–(800R)–(16-7M). The (800R) simply means that the gunner has moved the muzzle of his gun from center (or zero) to the right until his zero pointer corresponds with the 800 mil graduation on his turret. The (16-7M) means that he has moved his gun muzzle from its highest possible position, down 16 full turns plus seven mils on the handwheel. (Seven mils would be almost a half turn of the wheel, so that, if it were not graduated, one could say that the gunner had moved his gun down by 16½ turns of his handwheel.)

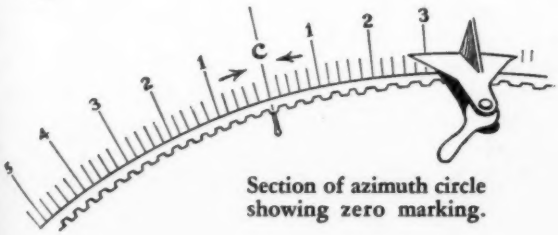
To test the accuracy of this method, after countless dry runs, we fired at a range of 200 yards on panel targets 5 feet high by 8 feet wide. Having made out a range card for these targets, we took away the gunner's periscope, set off his gun, and had him relay and fire solely by his range card data. Firing the co-axial machine gun, he very satisfactorily riddled the targets. To the best of my knowledge, there is no reason to believe that this will not work equally well at greater ranges, using the 37mm gun.

This is our solution to the problem of tanks on night outpost. Once the azimuth circle has been painted in and the handwheel graduated, there is no reason why this device cannot be used for other purposes. Estimation of range by a section of tanks, using the mil formula is one. Adjustment of fire is most certainly another. Battery fire by a tank platoon is, conceivably, another.

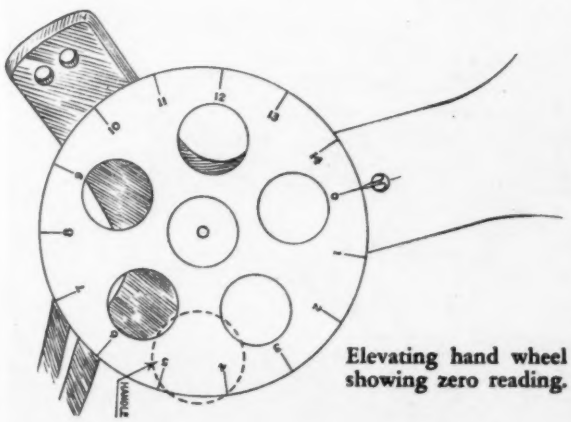
Believing that the results more than justify the small amount of effort expended, I submit this suggestion to tank platoon leaders who may often have thought, as I have, "How in blazes can my tanks fire at night?"



Turret basket.



Section of azimuth circle showing zero marking.


Elevating hand wheel showing zero reading.

Motor March Training

by Lieutenant Andrew S. Robson*

THE problem on march technique, given by the tactics department of the Tank Destroyer School, is designed to give officer candidates practical experience in taking command in a day and night march during an assumed combat situation.

The tactical march is made as realistic as possible by using a TD battalion comprising three tank destroyer companies, two reconnaissance platoons, a pioneer platoon, and a medical unit, all commanded by students. The exercise includes the organization of the companies at the initial point, reconnaissance for the march halt, bivouac, and position in readiness, daylight marches, and occupation of concealed positions. The evening meal is cooked on the march, and messing takes place in concealed positions. In the final phase, a warning order is issued and plans made for a night march and the occupation of a position in readiness, without lights.

The daylight phases of the march initiate the candidates into the difficulties of march control (with emphasis on SM). Special attention is also paid to the occupation of march halt and bivouac positions, route reconnaissance, the concealment and dispersion of vehicles, and appropriate security measures, including the digging of foxholes. These points are especially observed by tactics department officers who accompany student commanders. The march and concealment are also observed from the air by an officer in a light observation plane. Each phase of the march is critiqued to smooth out these basic march requirements before the battalion embarks upon the final blackout march.

Prior to leaving the initial point at 1300, maps are issued, and a general combat situation is assumed. The size and location of fictitious attacking enemy forces is indicated. The battalion is then in mobile reserve at the initial point at Camp Hood, awaiting orders as to the first phase of their movement. The student commanders are given the first march order: "Move your unit into a concealed halt position at Point D (indicated on your map). The tail of the battalion column must clear the road by 1600."

During the completion of the first phase, special attention is paid to the more basic details of march technique. Forming the battalion, dispatching the reconnaissance elements, passing the IP, traffic control, and the use of SM are closely checked. Air observation aids in the control and criticism of the march. After occupying Point D, a critique is held and further orders are given.

The second special situation is an order from the group commander to move the unit by 1800 to the concealed bivouac position shown on their map. The commanding officer also must prepare a plan to occupy a concealed position in readiness at given coördinates between 2000 and 2200. This entails reconnaissance, security, and movement to the bivouac position, and daylight reconnaissance to the position in readiness.

The battalion is now moved from the march halt position into the bivouac position. The companies are dispatched according to a march table. Immediately upon arriving at the bivouac position, a detail is dispatched to reconnoiter the route to the position in readiness. Observing proper sanitation and dispersion measures, the battalion messes at the bivouac position. The students then gather for the critique and explanation of the third phase—the night occupation of a position in readiness.

At 1800 the battalion commander receives information from division headquarters that at 1730 approximately 80 enemy armored vehicles went into bivouac south of the Ivy Mountains, some five miles from the position in readiness. He is ordered to mine Ivy Gap, a vulnerable point in the mountain range, and to establish a march outpost there to prevent the enemy from forcing the gap during the night. This mining and outpost detail is to be limited to four vehicles and must complete its mission by 2130. Blackout restrictions are ordered.

With the explanation completed, the battle situation

*Tank Destroyer School.

Three destroyer companies and two reconnaissance platoons are in a concealed bivouac position in this aerial photo, taken at the conclusion of the second phase. Marked improvement in concealment and dispersion is always noticeable.

Imprudent reconnaissance personnel attempt to remove a road block during the night march, without checking it for mines and booby traps. Dynamite charges, harmless but startling, show them their error.

is assumed realistically. Lights and smoking are prohibited, talking is curbed to a minimum, radio silence is ordered for all but the battalion reconnaissance net. The men move carefully through the darkness to their vehicles. Platoons and companies are formed and the battalion is moved out in the indicated order with reconnaissance, a pioneer detachment, and the traffic control party preceding the advance guard. The pioneer and reconnaissance groups are ordered to secure the position in readiness and continue on to mine Ivy Gap. The TCP marks the route and posts one guide for each platoon at the entrance to the position. The guides are equipped with lights, blacked out with colored pliofilm, in which the company designation symbol is cut. The cut-out symbol is covered with pliofilm of another color, so that no white light will escape.

During the third phase, it is evident that student commanders have more confidence and are more conversant with their duties as a result of the two daylight phases. With regard to judging time, passing the IP, and column control, the night march is technically much smoother, despite increased difficulties. During the night phase, special attention is paid to the placing of route markers, the various route marking expedients, and the use of the countersign and password. Emphasis is also placed on moving into the position in readiness, the use of dismounted guides for vehicles moving in the area, dispersion of the vehicles, and the use of security and outposts.

The roads selected for the march are barely discernible in daylight, usually lead through woods, open fields, creek beds, past bridges which must be inspected, and are broken by cross-roads and intersections. This route is selected purposely. These difficulties are increased by parties of instructors and enlisted assistants who ably simulate enemy patrols and harass the column.

The "enemy" establishes road blocks, many of which are mined with light charges. Students who carelessly remove the blocks receive a thorough object lesson in caution. Road markers are captured and enemy substitutes, equipped with countersign and password, mislead platoons and necessitate an increase in the vigilance of the student officers. The individual platoons, usually traveling five minutes apart, are often attacked by enemy patrols at a favorable spot. Firecrackers are tossed into the vehicles, and flares and light dynamite grenades add realism. The platoon is forced to halt, dismount, and deploy in an attempt to round up the raiders.

The most realistic and effective ambush is staged at Ivy Gap when the combined pioneer and reconnaissance detail of four vehicles arrives to mine the area and to establish an outpost. An enemy patrol has preceded the detail and prepared a reception of flares, firecrackers, and dynamite grenades. In many cases, the vehicles barge imprudently into enemy hands. After the excitement is over, the instructor in charge of the ambush explains to the students how the ambush could have been avoided.

Meanwhile, back of the position in readiness, the battalion has moved in and taken cover. Guards have been posted and security measures taken. As soon as this is completed, the students gather for the final critique, held by firelight. The problem is concluded with an administrative march back to the camp area.

With an efficient motor march technique, especially under blackout conditions, becoming an increasingly important factor in successful combat, the tactical march exercise assumes an important rôle in the school curriculum. The instructor in charge of the exercise continually devises changes in route, situation, and enemy action to provide a more practical and realistic training.

The final critique is held following the night occupation of the position in readiness. Students check their procedure and note errors.

How to Prepare the 2½-Ton Cargo Truck As a Kitchen Vehicle

*by 1st Lieutenant Arthur Paddock, Infantry**

THE truck, cargo, 2½-ton 6 x 6, is one of the most versatile vehicles in the service and never more so than as a rolling kitchen. No War Department or Army Ground Force directives appertaining specifically, the preparation of the 2½-ton cargo truck in troop or company is relatively simple if you are guided by the painful yet profitable experience of Lieutenant "A."

Ordinary tools and materials available in any troop or company are used, and the ordinary soldier with a smattering of hammer-saw-and-plane experience can do the work.

First, raise and secure bows. A hole drilled through each bow to accommodate a rivet or sawed-off nail will suffice for securing them.

Remove seats and secure on outside of body. This is easily accomplished by simply turning the seat clamps around. (See sketch 1)

Install the water tank against the cab. (See sketch 2). A convenient size is 14" x 52" x 79", which holds 292 gallons of water. Its length is such that the tank fits tightly in place and is secured by means of brackets welded to the tank to fit over the truck body. Lieutenant A used a third-class boiler plate obtained from a civilian junk dealer, but any substantial metal will do the job. An outlet can be installed in either or both ends, by means of a short ¾" pipe nipple and faucet to fit. This will necessitate drilling a ⅞" hole through the truck body. To obviate this necessity, an outlet may be obtained at the tailgate by extending the nipple along the bed of the truck body. The tank is filled through the gate at the top, as shown.

Perishability of foods, especially when the class A ration is issued, dictates use of a refrigerator. SFE funds may not be used to buy refrigerators, which on the civilian market are generally unobtainable anyway. Soft drink companies and post exchanges are usually reluctant to part with any of their patented boxes.

Perhaps the best plan is to build one yourself. This can be done with scrap lumber. Requirements are:

4 4"x4"x32" pieces
8 2"x4"x41" pieces
Sufficient ⅞" board to cover frame.
Hinges and nails.

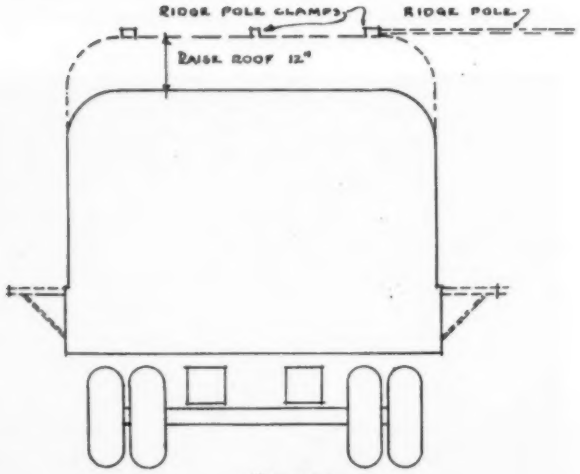
The dead air wall, as shown in sketch 3, can be stuffed with sawdust, peanut shellings, cornstalks, or other non-conductor material. It should be dampened when filled. The box should be lined with zinc or galvanized iron and drained by means of a ½" pipe nipple soldered through one corner.

Ration B carried in the vehicle varies as to quantity. Most of it is in canned form, and must be stored, along with bread, in a secure chest. A practical chest is illustrated in Sketch 4. It can be built from scrap lumber. Note in the sketch how the shelves are spaced to accommodate No. 10, No. 6 and No. 2 cans. Note in sketches 4 and 5 that the position of the chest in the floor plan necessitates hanging the door from the right. The chest is fastened to the vehicle by means of clamps screwed or nailed to the chest and secured to the body.

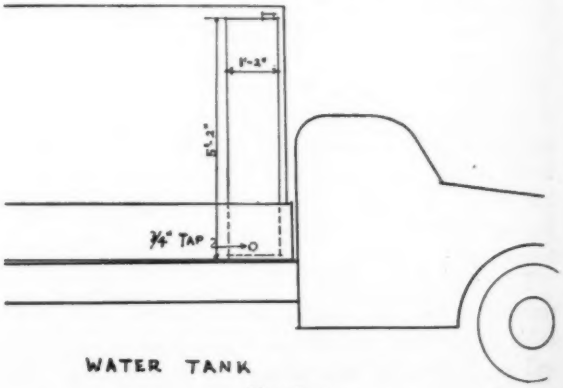
Assuming that meals will have to be prepared on the move, and with work table space limited, the kitchen crew must be provided with "knock-down" work tables. One of these is shown in Sketch 4. Both table top and leg are hinged so that when the table top is raised to position the leg falls to the floor.

If the kitchen unit is halted for long periods, the crew may wish to prepare meals dismounted. An auxiliary work table may be stowed beneath the truck bed be-

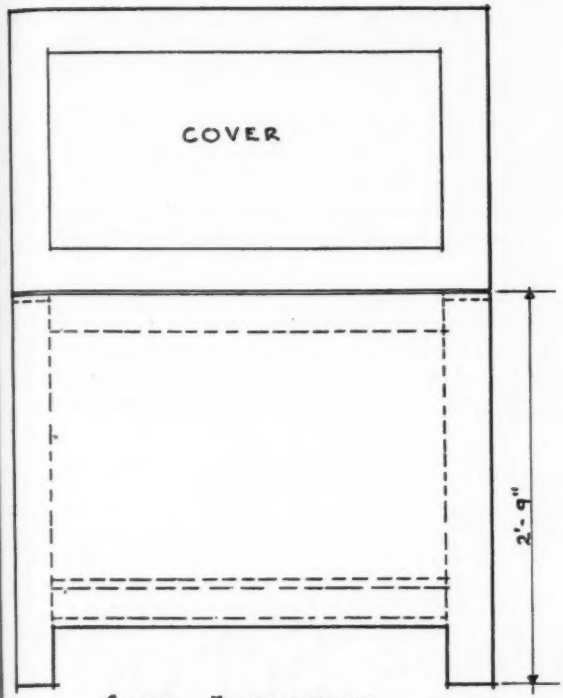
*Armored Force School.



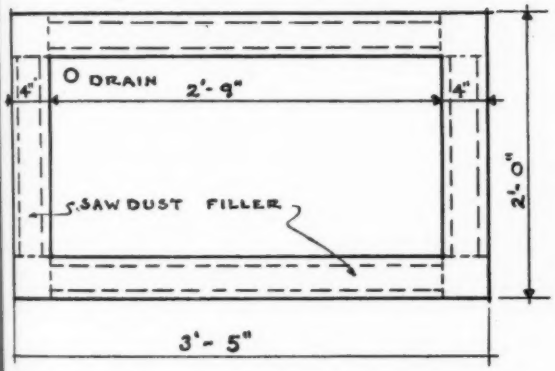
Sketch 1



Sketch 2



SIDE ELEVATION
COVER RAISED



PLAN, COVER REMOVED

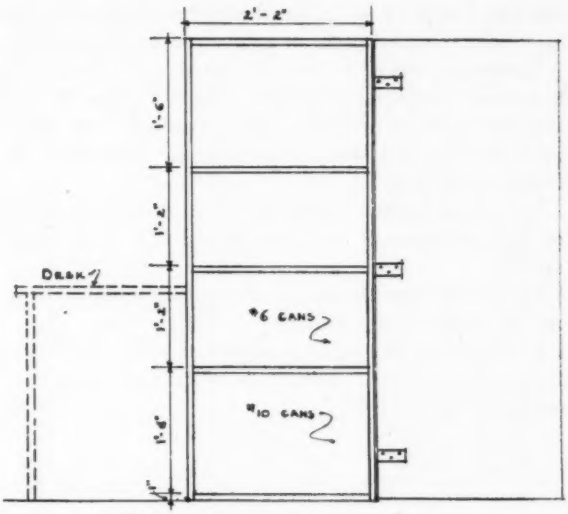
ICE BOX
Sketch 3

tween frame and bed. This table, also built of scrap lumber, is of 2"x12"x14' stock cleated together with scrap iron and screws.

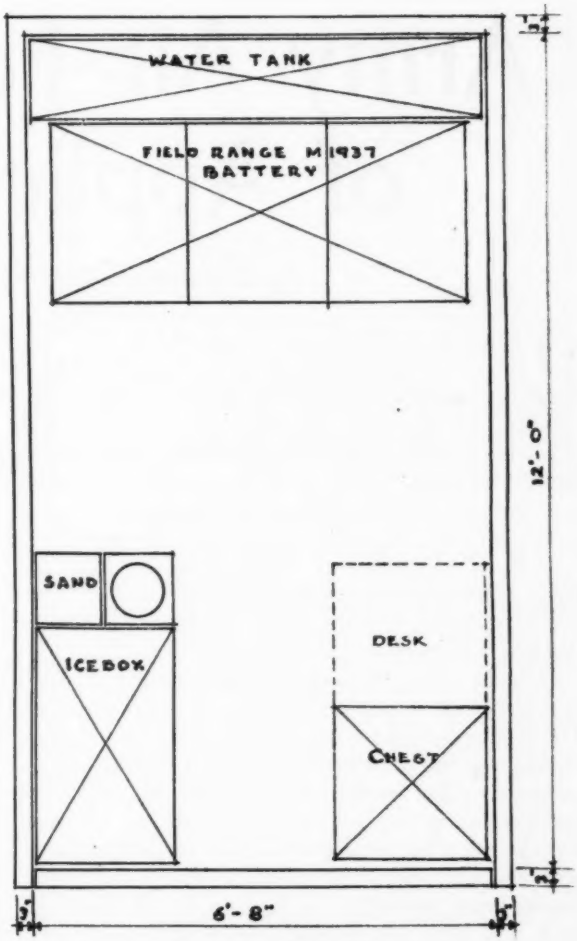
The kitchen fly on the march can be carried atop the cab on a rack equipped with straps or ropes for securing purposes. Ordinary suction cups affixed to the rack will hold it to the cab roof.

When halted, the fly is put up with speed by means of one upright and one ridge pole. The ridge pole is held in place at the truck end by a stove bolt secured to the bow with five inches exposed to the pole.

To install the M1937 Field Range battery properly



FRONT ELEVATION OF CHEST
Sketch 4



PLAN OF KITCHEN TRUCK
Sketch 5

requires that holes be drilled through the body bed and stove bolts placed therein in order to secure the battery.

Equipment issued for use in preparation of food may be stowed as experience directs. The five gallon reserve fuel can can be stowed snug in a partitioned box, with sand (for fire and stove grease) in the other half, as shown in Sketch 5.

Note from Sketch 5 that sufficient room is available for three soldiers of the kitchen crew to work comfortably.

The advantages of such an arrangement, as Lieutenant "A" suggests, are obvious.

1. Meals can be prepared *and served* while the kitchen crew is mounted. This is an advantage when the weather is wet or cold.

2. By preparing and serving food as a *mounted* crew, the kitchen section, if the tactical situation demands, can displace to another location without needless loss of time.

3. Meals can be prepared and served while on the move. Hot food can be placed in marmite cans and dispatched to elements of the column ahead of or behind the kitchen truck by means of a ¼-ton truck.

4. Rules of sanitation as set forth in FM 21-10 are invoked.

Practice in the field has proved this solution to the task of preparing the 2½-ton truck for kitchen service to be a successful one. In large measure it solves the problem of how to keep the kitchen up with forward elements by modernizing kitchen vehicle procedure.

Army Air Forces School of Applied Tactics

*by Colonel Frederick R. Pitts, Cavalry**

OUR entry into the present war found the Army Air Forces without a service school comparable to those operated by the Armored Force, Cavalry, Field Artillery, and Infantry. The Air Corps Tactical School at Maxwell Field, Montgomery, Alabama, had been disbanded in the latter part of 1940, its staff and instructors scattered far and wide, and its buildings and equipment employed for other purposes. The need for a tactical school, therefore, was immediately felt and plans were made to provide a new school. The result of this planning was the Army Air Forces School of Applied Tactics established November 12, 1942.

Orlando, a city of some 31 lakes, located in north central Florida was selected as the site for the school. The Fighter School already in operation at Fort Meyers, Florida, was transferred to Orlando and was the first department to offer instruction. Since then the school has developed along the lines shown on Chart No. 1. It now includes the academic departments of air defense, bombardment, air support and air service with a demonstration air force, paralleling the commands of a typical air force. The latter has its headquarters at Orlando with tactical units operating from ten airfields throughout the State of Florida.

AAFSAT, as it is familiarly known, officially opened April 5, 1943. Although a number of special courses are offered, the principal course is given to key officers and enlisted men of newly activated groups and squadrons. This course, lasting for a period of four weeks, is given by all four departments to selected air defense, bombardment, air support and air service personnel.

Recently another course has been added to the curriculum of the School of Applied Tactics, with its selection as a component of the new Army and Navy Staff College, together with the Command and General Staff School at Fort Leavenworth, Kans., the Naval War College at Newport, R. I. and Georgetown University in Washington, D. C. Operations of this college began in June as an agency of the joint chiefs of staff to train senior officers of the Army, Navy and Marine Corps in all phases of joint or coördinated operations involving land, sea and air. Approximately one month out of a total of four will be spent by these officers at Orlando undergoing instruction in air subjects.

In addition to the Army-Navy course and the courses offered by the Air Defense Department to antiaircraft artillery officers, the Air Support Department is con-

*On duty with Air Support Branch, Office Assistant Chief of Air Staff, Operations, Commitments & Requirements, Headquarters Army Air Forces.

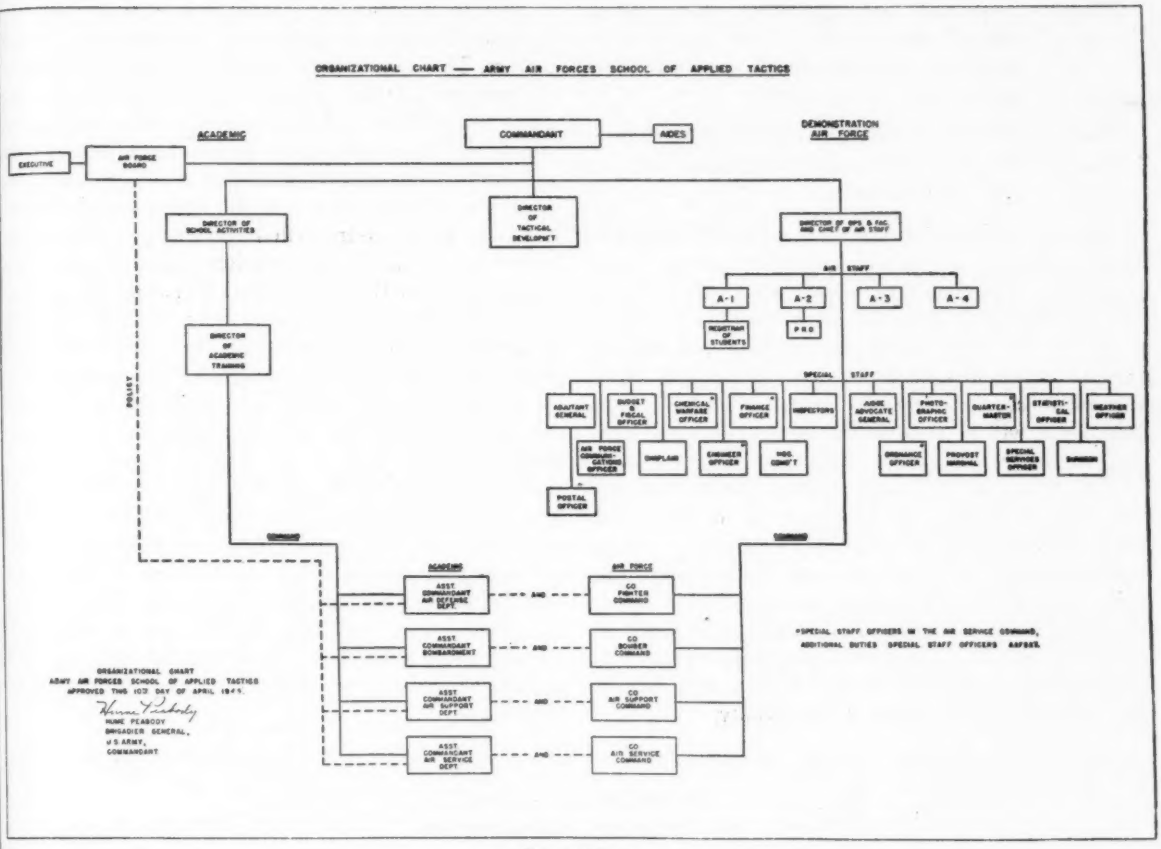


Chart No. 1

sidered of special interest to ground force officers.

The Air Support Department is headed by an Assistant Commandant, Colonel Morton H. McKinnon. It consists of two sub-departments, namely Academic and Tactical, organized as shown on Chart No. 2. The present course is divided into two, two-week periods. The first two weeks are spent at Orlando undergoing instruction given by the school and the department. The last two weeks are spent at the three satellite fields, i.e. Gainesville, Keystone Heights and Dunnellon, Florida, undergoing instruction in the field with the tactical units under the control of the Air Support Department.

At Orlando, students of all departments are given a series of Air Force orientation lectures. Air support students then receive a brief orientation on air support subjects after which they are divided into four main groups, according to the type unit to which they are assigned. Instruction is given by means of conferences, lectures, plays, demonstrations, map exercises and synthetic training devices.

At the satellite fields, students, still divided into four groups, receive instruction during the third week under direct control of their respective type units. This allows squadrons and groups to develop as a team and progress to the final week of tactical instruction under the direct supervision of the Tactical Sub-department, or Headquarters. During this final week, the Tactical Headquarters at Gainesville constitutes an Air Support Command and conducts air support operations employing the tactical units in attacks against an airdrome and supply installations and in close support of ground units. The latter operation, carried on in coöperation with ground units in training at Camp Blanding, Florida, is expected to develop into a proving ground to test the efficacy of latest air support methods of employment on close support missions.

Throughout the course emphasis is placed on tactics as applied to the individual and units, since students have completed their flying and technical training prior to coming to the school. All instruction, both at Orlando and in the field, is designed to teach the current methods of employing air support units in indirect and direct support of ground units. Because of the difficulty of coöperation between air and ground units in direct, or close support, considerable stress is placed on this phase of operation. In addition, new air support doctrine, gained as a result of lessons from the combat theaters, is interjected into the course as rapidly as possible. The soundness of the present doctrine was proven in the later stages of the recently concluded successful operations in Tunisia. This doctrine consists of three phases of tactical operations as follows:

Phase 1: Counterair force operations, or neutralization of enemy aircraft and airdrome installations, to eliminate the enemy air force and to gain air superiority.

Phase 2: Isolation of the battlefield.

Phase 3: Direct or close support of ground forces to assist their advance.

Although still in the planning stage, of interest to future students is a projected synthetic training device. This device will consist of a large scale relief map of northern Florida designed to show visually, by means of models, the organization, composition and employment of major ground forces and air support units. Movement of these models, both individually and collectively, will be possible through an elaborate electrical control system; colored lights will show the channels of communication used. Norman Bel Geddes has been engaged to plan and construct this device which will be 50 feet by 50 feet and is to be housed in a large room surrounded by a balcony from which student personnel may observe. The chief advantage from an instructional point of view is that students can obtain an overall picture of air support operations, whereas in actual operations they are limited to what they can obtain, generally, in the air or at one locality.

The Air Support Department is at present preparing a course for senior air and ground commanders and staff officers. This course, to be known as the Senior Officers' Coöperation Course, is scheduled for the near future and will last six days. It is designed as an indoctrination course for those officers of higher headquarters who are chiefly concerned with air-ground coöperation, but who cannot be spared to take the longer college course.

Except for the courses cited, no other provisions have, as yet, been made for ground force officers to take the course given by the Air Support Department. It is expected, however, that an appropriate course will soon be established for such personnel. Whether it will be a modification of the present course for key personnel or an expansion of the course for senior officers has not yet been decided. That effective air-ground coöperation depends a great deal on the mutual understanding of each other's capabilities and limitations by both air and ground officers has long been recognized. The establishment of a joint Army and Navy Staff College is a significant move toward closer coördination of Army, Air and Navy high commands. The Senior Officers' Cooperation Course will be a further step in closer air-ground coöperation. It is hoped that the next step will extend this education or indoctrination over a wider field.

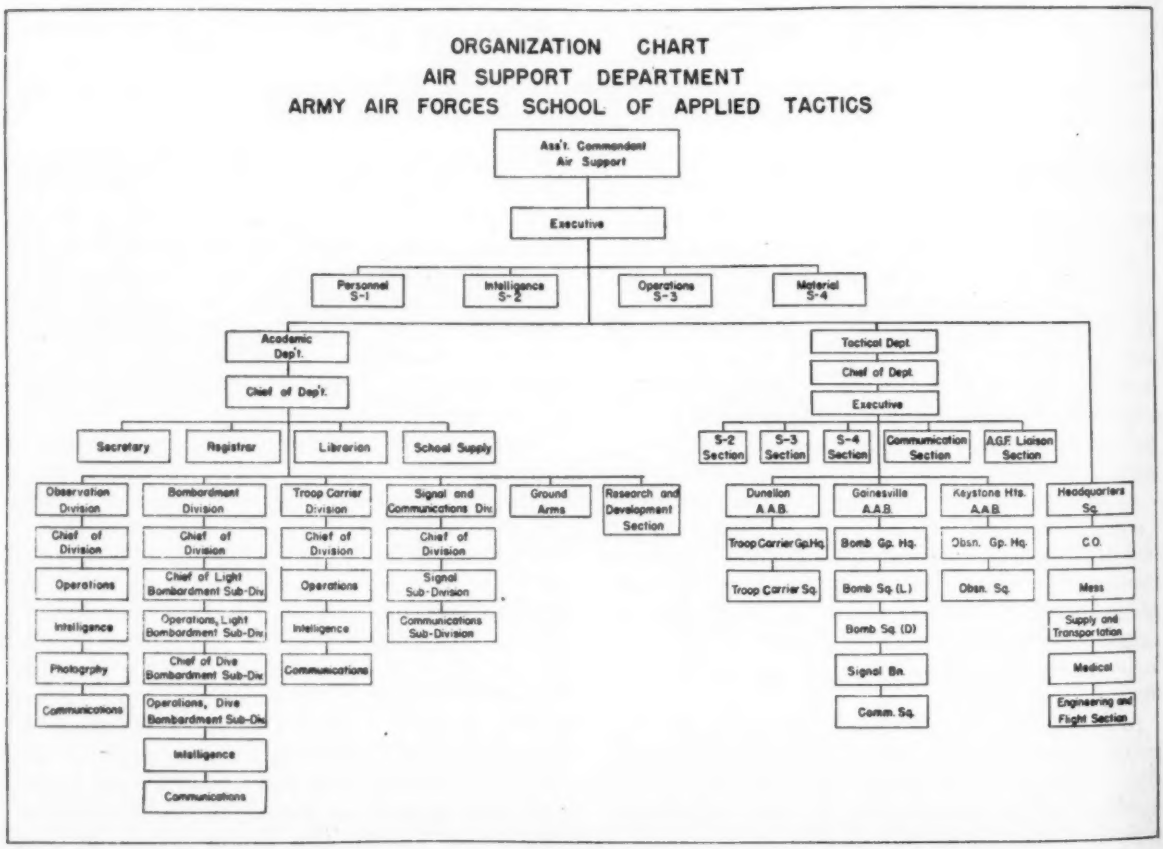


Chart No. 2

How Britain is Choosing New Leaders

by John Cashel

IN rating basic intelligence, irrespective of social standards, as the first quality in finding the right or better job for man or woman, the British Army is making a truly democratic effort that offers equal opportunity to all. This experiment could be called *Scientific* Selection of Personnel, but it is modestly designated simply as Selection of Personnel. Adaptable to many walks of life, its development will help in the stern days to come in making the most of the native ability of Britain's forty-five million population.

Not long ago, men seeking a commission would appear for a brief ten minutes before an old-style board, which on that short acquaintance would judge them fit or unfit for Officers' Cadet Training Unit.

Now three eleven-hour days, crowded with searching subjective and objective tests of men living in closest contact with their examiners, determine the ability of sixty men (the twice-weekly intake) to command.

As the candidates gather in the mess, the board's president, a progressive-minded Staff College "sapper" colonel still in his mid-forties, at once puts everyone at ease. "We'll know you here by numbers, not names," he says. "There'll be no ranks among you. You'll all be treated as officers. We'll all take meals together. We've no Gestapo here; no microphones in your rooms! So just be yourselves.

"We've no 'old school tie' bias. Every man has the same chance. Public and elementary schoolboys each have something the other doesn't have. We want to find out what it is so that we can help you."

The board consists of the president, his deputy (a colonel who devised some of this board's tests), three military testing officers, the medical psychiatrists, a psychologist, and a visiting member (a commander from a field unit). The final pass or fail, and grading, is based on their several opinions, all independently formed.

The president and deputy each take thirty candidates under their wing. Each military testing officer takes twenty, split into groups of ten. Where the psychiatrist's view is considered helpful, candidates are referred to him.

The Situations Test

The first series of tests are the outdoor military problems, which put *basic intelligence* as the first of the essential qualities of leadership—a capacity to think and observe quickly.

At a typical candidates' class the M.T.O. began by saying, "*Spontaneous situations* first. I want any one of you to imagine a military situation you ten men can tackle, make a plan, put it into action."

In forty-one seconds the first leader had out of the blue invented an enemy attack, devised his plan to meet it, and was shouting his orders. Taking command, he put his plan into operation as if doing the real thing on the battlefield. Seven men in turn devised situations and plans and enacted them. Sometimes, varying or changing a plan, someone else took over from the original leader.

Three men hung back. One was so strung-up that his face twitched nervously. An incident was devised to help them. Five men were designated "looters," and the other five told to arrest them. A bit of rough-and-tumble horseplay resulted, with everyone tussling and rolling in the mud, laughing and relaxing. The effect was magical. The nervous man immediately led with the next situation, as then did another laggard.

Imagined by the men themselves, these unset situations are of endless variety. Constantly some plan is unsound, something goes wrong, something is forgotten. Whose quick intelligence spots it?

This method, by which England has found new officers to re-build her army since Dunkirk, can be a formula, not only for the selection of commissioned officers, but for the selection and promotion of non-commissioned personnel.

One by one are revealed flashes of leadership and command, imagination, common sense, planning ability, strength of personality, enthusiasm, alertness. If a future candidate does not have these qualities, it will not help him if he learns of the tests in detail from his pals. He will get his mind made up and fumble on finding that things are not working out the way he planned. Fluidity is the essence of these tests. Basic tests are much the same; but others develop individually as a man's abilities and weaknesses show themselves.

Next, each group is confronted with *practical situations*. With the aid of a few "props" such as might be found on the battlefield, such obstacles as a barbed electric fence and a twelve-feet-wide minefield are crossed without being touched.

Although some physical fitness is demanded, every-

where the probe is for the sharp eye of native intelligence. The probe demands speed, but not the perilous haste of impetuosity. Seconds matter, but the extra one well spent in thought or observation is not lost in the end. "Leap fast, but look before you leap!" is the best motto.

In one such probe in the semi-controlled *narrative situation*—a Commando raid on a radio station in search of a box containing a secret radio device—it was the *thinkers* who got the marks.

The same was true in an *individual situation*, where a man suddenly faced simultaneously with an enemy patrol and a burning house had to act swiftly before the enemy was on top of him.

Going over an ingenuity course (crossing a broken bridge, scenting a track, negotiating another minefield) calls for several qualities other than "from-the-book" knowledge. The same is true with an original tug-of-war, where a rope is a "front line," with two ten-men teams facing each other from either side of it. Each team concocts a plan, and by frontal and flank attacks or encirclement, push or pull the rope forward to force it over an object representing a town in the other's rear.

The Army's new examiners (who themselves are appointed on similar principles) are down to bedrock intelligence in these basic tests. The incapacity of many men to grasp their novelty is itself self-revealing.

The tests end with a scene probably unique till recently in military annals. The ten men, who are all able to observe everyone else's performance, sit down in their sleeping hut and secretly ballot for the candidate they would most willingly follow if they were in a tight corner surrounded by the enemy, and had to fight their way out or had a chance of getting away by skill and cunning. This double test of judgment—the highest aggregate vote giving the leader—is significant in showing what the men themselves think of each other; but it does not affect a candidate's chances.

The Psychologist's Job

The second day the candidates are given the psychologist's reasoning and basic intelligence tests, and personality pointers. Singly these pointers seem meaningless, but they add up to a composite picture of certain qualities, good or bad, in a leader.

Similar self-revelation is sought when lantern slides, each of a "problem picture," are flashed on a screen. Candidates have to imagine and write down what led up to the picture, what the characters thought and felt, what was the sequel.

Next they write a brief appreciation and depreciation of themselves—what their best friend and worst critic might say of them. All are high-speed tests—their value lying in a quick, unstudied response.

The psychologist also has candidates fill the usual forms that carried such weight at the old-style board's ten-minute interview, but are now a fractional part of the exhaustive three-day trial.

In one questionnaire, a candidate sets down his name, regiment, age, what unit he wants a commission in, education. In another he answers confidential medical questions about his health, parents' ages or cause of death, occupations of father, brothers and sisters. By the time candidates come to be interviewed, the board has before them a detailed dossier on each man's performance.

President or deputy now adds to the general picture his own report on the man's personality and background, experience, military interests, knowledge of current affairs, officer-quality.

One-third of the men interviewed are bright to brilliant. A third average. A third so deficient that they might be considered as getting more than a square deal in being tested for officer training.

From one class there was a man who could not point on a map to the Mediterranean. Another located an enemy country in the heart of an Allied one. Another located a big British army on the Rock of Gibraltar, and said the Allies were advancing on a battle front where fighting ceased a year ago. Significantly, all three were the lowest-rated of their group in the psychologist's tests that aimed at discovering basic intelligence and not knowledge.

Discussion

The president's "lecturettes," held in a room representing a company commander's office, bring out still another officer-quality angle. A candidate is seated at the commander's desk, and handed a slip of paper setting down a problem. Asked how he would deal with it and the man concerned, he is allowed to demonstrate his answer when another candidate enters and stands before him. Each man in turn takes the commander's place with a new problem; each has only seconds to think it out before addressing the entrant. This is "brains-trusting" to practical purpose!

There is more of this in the group discussions. During one distinctly novel discussion each candidate was asked to name any celebrity that he would like as companion on an imaginary train journey from London to Edinburgh in order to question him.

The first man said: "General Eisenhower. I want to ask him if he thinks America so far is pulling her weight in the war?"

"You be Eisenhower and answer his question," said the deputy president to another candidate.

Without warning, the candidate questioned had to project himself into Eisenhower's shoes and answer from his point of view. Easy? Well, try it in your own family circle!

It is just one of scores of devices Britain's army is employing to make sure that no half-wit, whatever his social standing, gets charge of the lives of his brothers on the battlefield.

The Medical Psychiatrist

About a third of the men are interviewed by the medi-

cal psychiatrist. One candidate had some excellent qualities but a puzzling lack of leadership and aggressive spirit. Might this cause him to crack up under stress on the battlefield and let his men down? Was the defect superficial, due perhaps to nervousness, and quickly remediable? Or was it long-standing, probably incurable? All tests so far, while revealing the weakness, had failed to give the answer. Could the psychiatrist find it?

The candidate at once saw that his questioner wanted to give him his vote if he could, and most readily answered the questions, which were quietly put in a friendly way. They began with, "Tell me about yourself from as far back as you remember."

Bit by bit was built up the history of a small boy so devoted to a brother two years older than himself that he went everywhere with him till far into his 'teens. Though now in his mid-twenties, he didn't bother much about girls. He had one he once thought was *the* girl, but found he forgot her within a week of joining the Army. Since then he had taken two or three others out on occasions. He was not worried by that sort of thing and much preferred his new army interest.

The psychiatrist had found a double answer to the question set him. How it might affect a leader in battle, he and the military president jointly decided.

The Army's psychiatrists are specialists above reproach. They are headed by Britain's most distinguished exponent of this mind-healing science. These fully trained doctors are not to be confused with the unqualified "psycho-analysts" who prospered after World War I.

Never before have the military expert and the psychologist worked so closely together and so successfully, since nearly one hundred per cent of those they jointly select for training are graduated as officers.

Final Judgment

The last hours of the three day tests are devoted to the final judgment. Before the president or his deputy is the complete data of every man's performance. Around him sit the military testing officers, psychiatrist, psychologist, and visiting military member. Each examiner has from his particular tests formed his independent opinion.

A candidate steps into the room, announces his name, rank and regiment. "You want a commission in light ack-ack, and your age is thirty-two?" asks the president. "Yes, sir," and number one goes out, is assessed and graded; then the next man comes in.

The judgment battle rages around the borderline cases (about a third of the total), for every examiner feels a grave responsibility in voting a "bad risk" for training to command men.

In one typical contest case, when the president asked for independent opinions, the fight went like this:

M.T.O.: "I pass him, despite his faults. There is something in him, and incidentally, that is supported by eight men in his group of ten balloting for him as leader."

Psychiatrist: "I'm for him, too. He's had strong feelings of inferiority all his life, but has struggled to overcome them. I think he has too much guts to crack up under battle stress."

Psychologist: "Moderate intelligence."

Visiting colonel: "I gave him a D (doubtful)."

President: "So did I, but the strong support he gets from both the M.T.O. and the psychiatrist tips the scales in his favor. I'll pass him. He has a dull, dreary voice, but the Officers' Cadet Training Unit can do something with that."

A failed borderline case was summarized as follows:

"M.T.O. passes him," said the president. "I found him full of leadership and self-confidence. But his basic intelligence is well below average, and this is confirmed by the psychologists' tests. Pity, but we dare not take the risk of putting him in charge of men's lives. He'd probably blunder badly in a crisis. We must fail him. U (unsuitable)."

Another man set a different problem.

"Intelligent. Good appearance. One is immediately prejudiced in his favor," said the president. "But he lacks physique and wants a commission in the infantry. Ask him if he will consider going into a static unit. If so, we'll see what we can do for him. Decision postponed."

The biggest thrill was not over a borderline fight, but at a unanimous pass. A diminutive, insignificant-looking fellow, well over average age, entered the room, smartly announced himself and departed. He was Britain's *Little Man* in khaki, overflowing with fighting spirit.

"That's the little pay corps clerk," said one member. "Helped far stronger fellows over the obstacles; heaven knows how he did it," said another.

"Intelligent. Full of guts, his personal appearance belies him. Poor physique, but he wants a commission in a static unit and shall have the chance of getting it," summed up the president. "We'll BB him (as high a grading as given to any man of that intake of sixty) to help him at the O.C.T.U."

Most candidates feel that however they fare, the board does its utmost in the three days to find the best leaders among them. They are tested for basic intelligence and a combination of other qualities that make a good officer, but many good men have different qualities that fit them best for the jobs they are doing already. They feel that the Army has "got hold of something" unequalled for finding the right man for training for the right job.

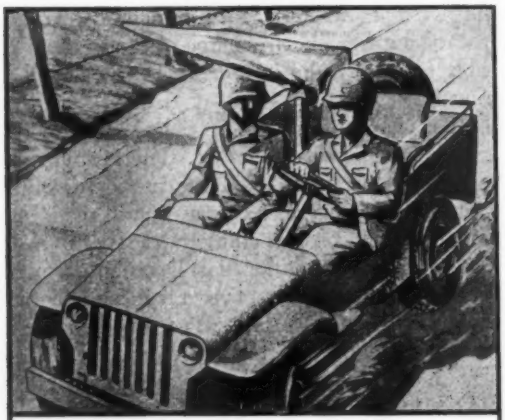
Dunkirk re-started the British Army from scratch and left room for new ideas. To make the utmost of their man-power, the Army started scientific Selection of Personnel, offering, as never before, equality of opportunity. In this, the Army feels that it has evolved a distinctly British product.

DO'S and DONT'S

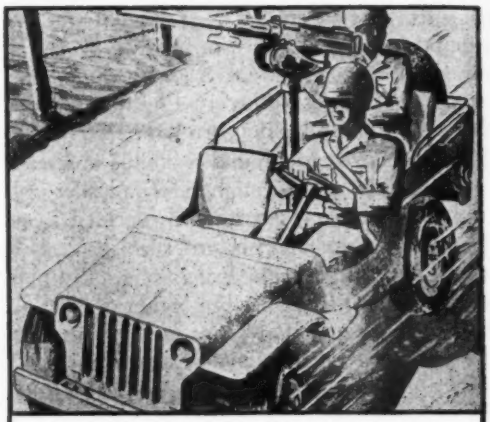
In Tactical Training

The following illustrations are taken from *Tactical Training Aid*, issued by the Headquarters of The Armored Force. We commend it for its simplicity of detail and thoroughness of purpose and submit it for your careful study.

PROVIDE BRIDGE GUARDS, CONTAMINATED AREA GUARDS AND OTHER DETACHED MEN WITH FOOD AND WATER. IN SOME INSTANCES MEN WERE LEFT FOR 48 HOURS OR MORE WITHOUT FOOD AND DRINK.

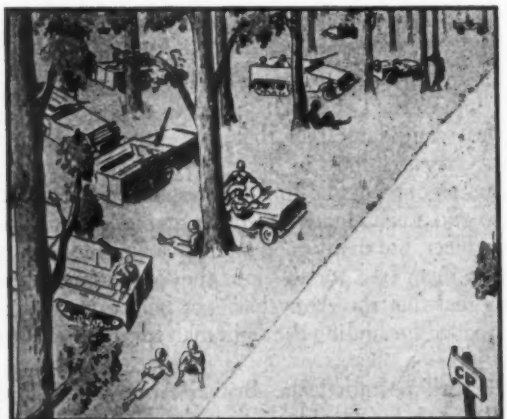


THIS WEAPON CANNOT BE PUT INTO ACTION QUICKLY.

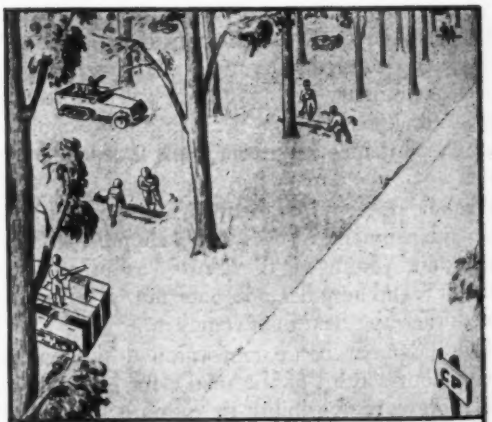


THIS CREW IS READY FOR ACTION.

MAN THE WEAPONS. BE PREPARED AT ALL TIMES.

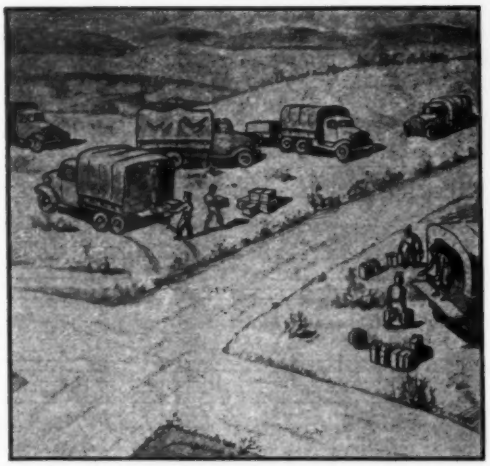


THIS INVITES DISASTER.



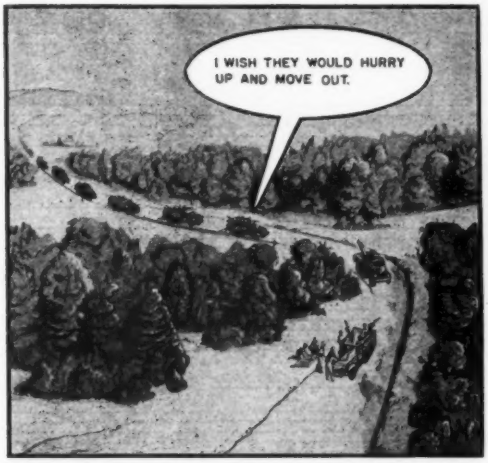
DISPERSE VEHICLES, DIG SLIT TRENCHES, AND MAN WEAPONS.

DO NOT CROWD VEHICLES AROUND THE CP, OR FAIL TO PROVIDE LOCAL SECURITY. DIG SLIT TRENCHES.



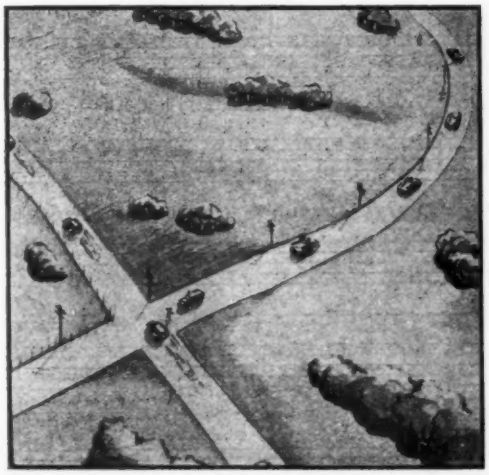
DO NOT LOCATE TRUCKHEAD AT PROMINENT INTERSECTION. THIS TRUCKHEAD IS OPERATING AT A CROSSROAD. IT IS DAYLIGHT. NO COVER IS AVAILABLE.

KEEP MEN AND VEHICLES UNDER COVER. HERE A MESS LINE FORMED IN THE OPEN.



THIS UNIT WAS FORCED TO HALT BY VEHICLES IN FRONT. UNIT COMMANDER MADE NO ATTEMPT TO FIND OUT THE TROUBLE. MAINTENANCE CREW DID NOT SIGNAL VEHICLES TO PASS. NO COVER TAKEN. VEHICLES JAMMED ON ROAD.

IF UNITS IN FRONT HALT SEND SOMEONE FORWARD TO DETERMINE THE TROUBLE. MOVE OFF THE ROAD TO COVER.



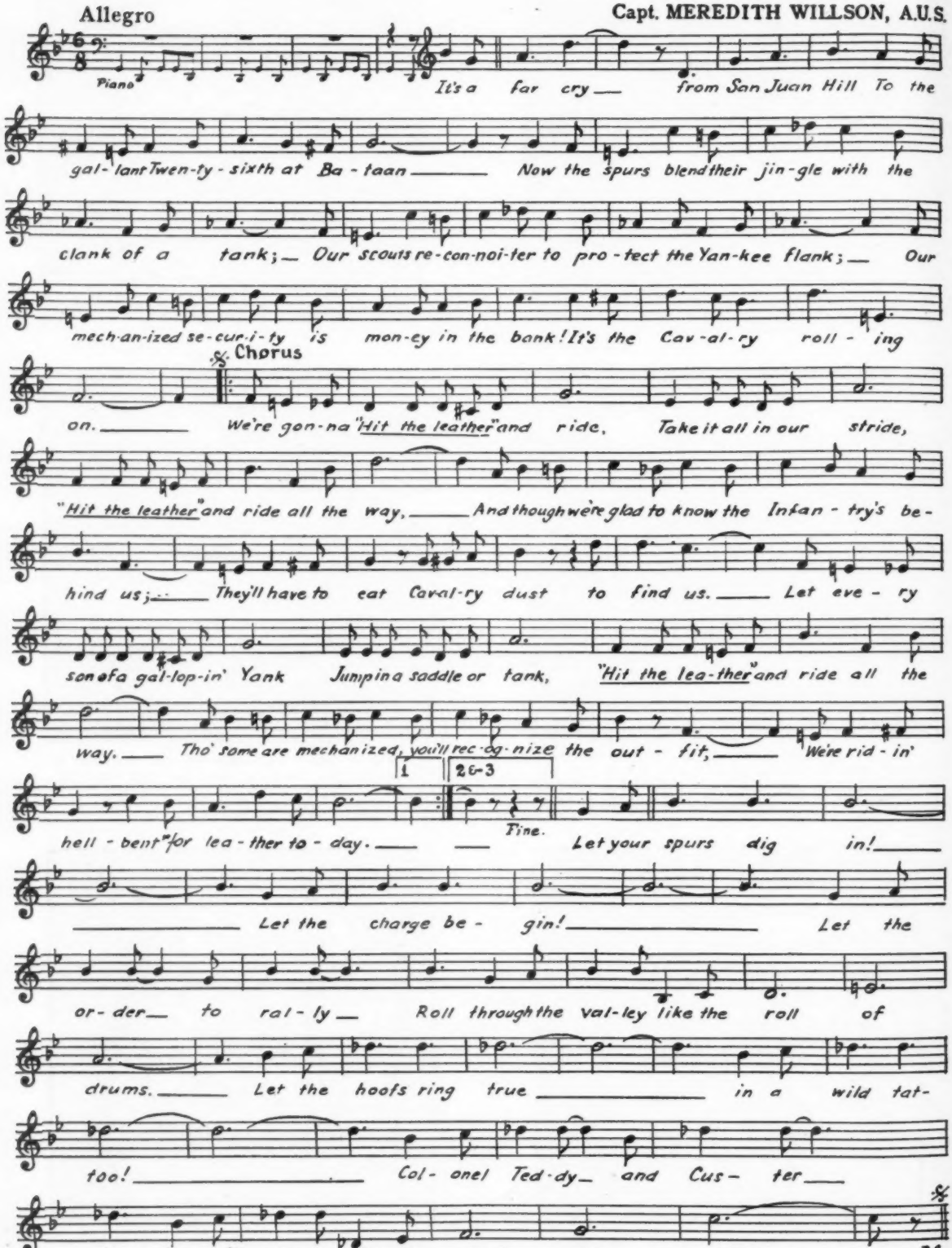
MAKE SURE ROADS WILL BE AVAILABLE WHEN MOVEMENT IS ORDERED. THIS COLUMN WAS BLOCKED BECAUSE SOMEONE FAILED TO CHECK ROAD

CHECK COORDINATES BEFORE SENDING CP LOCATION.

Dedicated to The Cavalry School at Fort Riley, Kansas

Hit the Leather

Cavalry Song

Words and Music by
Capt. MEREDITH WILLSON, A.U.S.

Allegro
Piano
It's a far cry from San Juan Hill To the
gal-lant Twen-ty-sixth at Ba-taan Now the spurs blend their jin-gle with the
clank of a tank; Our scouts re-con-noi-ter to pro-tect the Yan-kee flank; Our
mech-an-ized se-cur-i-ty is mon-ey in the bank! It's the Cav-al-ry roll-ing
Chorus
on. We're gon-na "Hit the leather" and ride, Take it all in our stride,
"Hit the leather" and ride all the way, And though we're glad to know the In-fan-try's be-
hind us; They'll have to eat Caval-ry dust to find us. Let eve-ry
son of a gal-lop-in' Yank Jumpin a saddle or tank, "Hit the lea-ther" and ride all the
way. Tho' some are mechanized, you'll rec-og-nize the out-fit, We're rid-in'
1
2&3
hell-bent for lea-ther to-day.
Fine.
Let your spurs dig in!
Let the charge be-gin!
Let the
or-der to ral-ly Roll through the val-ley like the roll of
drums. Let the hoofs ring true in a wild tat-
too! Col-onel Ted-dy and Cus-ter
know how we'll mus-ter when the great day comes
D.S.

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Book Reviews

THE USE OF AIR POWER. By Flight-Lieutenant V. E. R. Blunt, R.A.F., with an introduction by Winston Churchill. Military Service Publishing Company. Appendages. $1.00.

After serving for two and one-half years with the R.A.F., Flight Lieutenant Blunt resigned his commission in order to publish this book, which in 1941 the Air Ministry termed, "too controversial, too critical of Air Ministry policy, strategy and tactics" for publication.

To counteract the attitude of those who think that air power alone is sufficient to win a war, Lt. Blunt first lists and analyses the limitations of air power, then discusses the uses to which it best can be put. To back his conclusions, he gives a brief résumé of the employment of air power by Germany in the Battles of Poland, Norway, Holland–Belgium–France, Britain, Greece, and Crete in contrast to its use by Great Britain in the first and second Libyan Campaigns, Abyssinia and Syria. "The Germans," he says, "seem to have thought out the use of air power and its *combined* employment with land forces and to have trained on lines which have been a model to the rest of the world."

Lieutenant Blunt then analyses the established principles of war and superimposes them upon the capabilities and limitations of the air arm. He objects to the theory, originally practiced by the R.A.F., that any one branch—air, land, or sea—is or can be independent of the others in the efficient performance of their combined mission—destruction of the *enemy*. He recommends a coördinated attack force with a unified command—*three services, one head.*

Because many of the recommendations of this book have been successfully applied during recent campaigns in Tunisia and Sicily, it becomes of even more value to those who would understand new tactics in warfare.

AMPHIBIOUS WARFARE AND COMBINED OPERATIONS. By Lord Keyes. Macmillan Co. $1.50.

To those who consider that Combined Operations originated with World War II, this little book will prove most enlightening.

Lord Keyes, then Sir Roger Keyes, conceived, planned and personally commanded the heroic commando raid on Zeebrugge in the last war. He traces the history of Combined Operations from Wolfe's capture of Quebec in 1759, through the China War in 1900, the Dardanelles Campaign in 1915, operations on the coast of Belgium in 1918, to their present use in this war.

This timely book has most fortunately been bound in a small compact volume, light, and easily carried.

ARMORED WARFARE. By Major General J. F. C. Fuller. Military Service Publishing Co. $1.00.

This book, fourth of the series of *Military Classics* being published by Military Service, is an annotated edition of FSR III. It was first published in English in 1932, at which time it received scant attention.

In Europe the book was highly acclaimed. According to a Czech officer the Germans regarded it as their bible. Timoshenko ordered that FSR III be made a "table book" to be kept at every officer's elbow for ready reference.

HOW THE ARMY FIGHTS. By Captain Lowell Limpus. D. Appleton-Century Co. $3.00.

This book should prove of considerable interest. It gives, in logical sequence and understandable language, an excellent coverage of the army of today, its weapons and training and the job it is being equipped to do. Captain Limpus points out the changes of technique necessitated not only by the last war, but even by the opening months of World War II.

His comments on cavalry are of particular interest: "*Cavalry* still isn't regarded as obsolete, despite a popular impression to the contrary—and we mean horse cavalry, not the mechanized variety. This is due to one inescapable fact: A horse can go a lot of places where a plane can't fly and a motor vehicle can't run. And he can go there faster than a man can walk—which gives the horseman a distinct advantage over infantry."

There are adequate maps for the important military areas mentioned and tactical diagrams for the problems discussed.

AIRBORNE INVASION. By John Hetherington. Duell, Sloan and Pearce. $2.50.

John Hetherington has seen longer service in the Middle East than any other war correspondent. He landed in the battle zone in February 1940, covered the Libyan Campaign under Wavell, the fighting in Greece, Crete, Syria, the Libyan Campaign of 1941-42, the retreat to Alamein in June 1942, the Alamein victory in November 1942, and then remained with the British Eighth Army until he returned to Australia in the spring of 1943.

Airborne Invasion is no observer's book. It is a participant's account of the defense employed in Crete against the only full scale airborne invasion carried through in this war. This book, written in a dignified form, will be read with more care and interest than is usually shown to correspondent's reports, because it has been written with the benefit of official records. The author has checked his facts with at least a hundred officers and men who fought in Crete. This small, compact volume should be of value to men interested in the problems of airborne invasion.

Officers' Guide

1943 Edition

Incorporates many of the developments and changes that have occurred during the past few months. . . . Contains advice on Uniforms, Equipment, Military Courtesy—much other inspiring counsel on the problems facing the officer on active duty today. 552 Pages; Index.

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No. C-3 on Cavalry Journal book list.

Company Administration

Including Supply and Mess Management and

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Including Personnel Office Organization and Procedure

By Lt. Col. C. M. Virtue

Long recognized as an authority on Army paper-work, this book's usefulness is now further increased by numerous revisions and added matter.

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No. C-6 on Cavalry Journal book list.

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By Henry C. Coleron and F. Allen Burt

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THE UNITED STATES AND ITS PLACE IN WORLD AFFAIRS, 1918-1943. Edited by Allan Nevins and Louis M. Hacker. D. C. Heath and Company, 1943. $3.25.

Since it is no longer possible for the United States to insulate itself from the rest of the world, and since what happens to other nations affects deeply our own lives, a book like this one is important for the contribution that it makes to better international understanding. It differs from other surveys of this period by interpreting world events solely from the American standpoint—as they affect American ideas, aspirations, and interests. This clearly defined point of view helps to give the book unusual unity and coherence, in spite of the fact that a tremendous variety of matters are treated—political, economic, social, and moral.

Over a dozen different authors, all specialists in their respective fields, have made sound and realistic contributions of material. Although designed for Army and Navy courses, this book presents new perspective that makes it of more than current importance to the general reader.

MEDITERRANEAN ASSIGNMENT. By Richard McMillan. Doubleday, Doran & Co. $3.00.

BACK DOOR TO BERLIN. By Wes Gallagher. Doubleday, Doran & Co. $2.75.

In *Mediterranean Assignment,* Mr. McMillan uses the first third of his book to describe the battles in defense of Greece and Crete. The rest of the volume is given over to the Eighth Army in the Middle East and North Africa, with particularly interesting chapters on Bir Hakeim and El Alamein.

The author's extreme admiration for General Montgomery has led him to give a detailed account of this undeniably great military leader. He also brings out the fact, frequently ignored, that the less colorful but astute General Sir Harold Alexander was the major strategist for the Eighth Army's successful third campaign in Libya.

Back Door to Berlin is the story of the American expedition to North Africa, its planning and accomplishments.

Much space is given to the story of American-French negotiations. Although descriptions of the planning and accounts of the fighting are interesting, it is still too soon after the *coup* to expect all of the facts to be aired, and Mr. Gallagher is not entirely convincing.

These two books, however, give a good picture of the battle for North Africa from both the British and American angles.

TWELVE MONTHS THAT CHANGED THE WORLD. By Larry Lesueur. Alfred A. Knopf Company. $3.00.

Mr. Lesueur's book is primarily a diary of personal experiences in Russia during 1942. The best writing in the whole volume is in the early chapters describing the convoy on its way from Scotland to Russia. It is interesting casual reading, but by no means an important addition to war literature. To those who have read *Journey Among Warriors* it will have nothing of fundamental value to offer.

250 TEACHING TECHNIQUES. By Lt. (jg) Edward C. Estabrooke, U.S.N.R. and Lt. R. Randolph Kardi, U.S.N.R. Bruce Publishing Co. $1.25.

This concentrated but comprehensive book covers the following subjects: Qualities of a Good Instructor; How to Conduct Shop Activities; How to Plan and Present a Lesson; How to Conduct Demonstrations; How to Use Oral Questioning and Discussion; How to Use Motion Pictures; How to Maintain Good Discipline; and many other subjects of interest to the man instructing men. Under these chapter headings will be found the solutions to most of an instructor's problems.

KILL OR GET KILLED. By Major Rex Applegate. Military Service Publishing Co. $2.00.

Much more than just another book on hand-to-hand fighting, this manual includes instruction in unarmed combat, disarming, knife fighting and methods of using inconvenient weapons.

A brief concluding chapter outlines the Japanese soldier's use of the bayonet and his close combat methods, based on reports of observers who have recently served in the Japanese army.

ADMINISTRATIVE & SUPPLY NOTEBOOK. Military Service Publishing Co. $.75. 3½ by 5½ inches.

Two-thirds of this convenient pocket sized notebook contains handy digest of regulations governing unit administration and supply. The latter third consists of lined pages for personal notes.

THE OFFICERS' GUIDE. Military Service Publishing Co. $2.50.

COMPANY ADMINISTRATION. By Lt. Col. C. M. Virtue. Military Service Publishing Co. Cloth $2.00; Paper $1.50.

About a quarter of the material in the new *Officers' Guide* has been rewritten to bring the book up-to-date. Those officers who have used the *Guide* know how invaluable it is. New officers will find in it the answers to almost all of their military, social and personal problems.

Company Administration has stood for many years as a "bible" of its kind. This thirteenth edition has all of the latest information. It is the only adequate summary in print of the complicated maze of Army Regulations governing administrative detail.

These two new editions of old standbys warrant the welcome that they will receive.

A DEFENSE MANUAL OF COMMANDO JIU JITSU. By Irvin Cohn, B. M. Wilcox and Co. $1.00.

Prepared by a Marine Corps instructor, this manual relies almost entirely on pictures and sketches to teach the art of hand-to-hand combat. It is a handy, brief outline of the essentials for self defense, presented in a clear, easily understood form.

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THE TOUGHEST FIGHTING IN THE WORLD. By George H. Johnston. Duell, Sloan and Pearce. $3.00.

George Johnston has covered the New Guinea campaign and every battle front in the Pacific from Darwin to Buna. His account does not come under the heading of "pleasure reading." It claims to be an uncensored account, and as such, presents *war* as the Australian and American men have seen it in the Southwest Pacific. Victory and retreat are pictured vividly and with intimate detail.

We have had few books on the Pacific action since the fall of the Philippines, but this one is well worth waiting for.

BLOOD FOR THE EMPEROR. By Walter B. Clausen. D. Appleton-Century Co. $3.00.

Mr. Clausen has woven into a very interesting book, narratives of the war in the Pacific as told by men who participated in the various actions. The period covered is from December 7, 1941 to the present day. Chapters are given to the various phases of the war as fought by the land, sea and air forces.

The book does not pretend to be a military manual. It is intended to be a picture of the Pacific war as viewed by the men who are fighting it. Personal experiences make it a swift-moving and thoroughly readable volume.

THE SPANISH LABYRINTH. By Gerald Brenan. Macmillan Company. $3.75.

This book endeavors to explain the enigma of the Spanish civil war by a detailed account of the modern social and political history of the country. It is indeed a labyrinth, albeit an interesting one. The reader is left with the feeling that the only possible road to advancement is through complete rebuilding, from the ground up.

Mr. Brenan served through World War I in the British Army, and then settled in Spain to farm. He obviously knows his adopted country and its people. It is quite probable, however, that many readers will not agree with some of his deductions.

STALWART SWEDEN. By Joachim Joesten. Doubleday, Doran & Co. $2.50.

Joachim Joesten, with a background of six years as a foreign correspondent in Scandinavia, presents a timely and comprehensive study of Sweden's place in the war world of today.

Several years ago a number of books were written on Sweden's government, the ideal manner in which many of the social problems were handled, and the smoothness with which Swedish democracy functioned. Mr. Joesten outlines all of these political, intellectual, cultural and industrial phases of the national life, and the influence that they have had on Sweden's policies.

An excellent index enhances the value of this book as a source of information for readers interested in the Swedes and their potential war status.

Here Are This Month's New Books of Current Interest

V- 1 **Amphibious Warfare and Combined Operations.** *By Lord Keyes, Admiral of the Fleet.* The history and personal account of "Combined Operations" in past wars. $1.50

V- 2 **The Army Officer's Manual.** *By Lieutenant Colonel A. C. M. Azoy.* 3rd edition of this valuable and handy sized little book. $2.50

V- 3 **Back Door to Berlin.** *By Wes Gallagher.* The story of the American coup in North Africa. ... $2.75

V- 4 **Blood for the Emperor.** *By Walter B. Clausen.* A narrative history of the human side of the war in the Pacific. $3.00

V- 5 **Clausewitz on War.** *Translated by O. J. Matthijs Jolles.* A complete translation of the classic work on the philosophy and strategy of war. ... $1.45

V- 6 **German Military Science.** *Compiled by Ames Johnston.* Selections in German of readings from military books currently read by officers in the German Army. $2.00

V- 7 **God is My Co-pilot.** *By Colonel Robert L. Scott.* The author's experiences as a fighter pilot in China and as commander of the American fighters in China. $2.50

V- 8 **Greece Against the Axis.** *By Lieutenant Colonel Stanley Casson.* An account of the heroic Greek campaign against the Axis. Cloth $2.50, Paper $2.00

V- 9 **Handbook of Elementary Physics.** *By Robert Bruce. Lindsay.* A handbook to be used by students to supplement the regular text. $2.25

V-10 **Hand-to-Hand Combat.** *Prepared by the Training Division, Bureau of Aeronautics, United States Navy.* A manual of hand-to-hand combat.

V-11 **He's in the Signal Corps Now.** *By Carl Mann.* The story of the training of the "eyes and ears of the Army." $2.50

V-12 **How the Army Fights.** *By Lowell M. Limpus.* An interpretation of the American Army, the techniques of modern warfare and the weapons of today. $3.00

V-13 **Kill or Get Killed.** *By Major Rex Applegate.* A manual of hand-to-hand fighting for members of the armed forces. $2.00

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V-15 **Manual for Instruction in Military and Aerial Photographs.** *By Norman F. Maclean and Everett C. Olson.* What every soldier should know about maps and aerial photographs .....

V-16 **Mediterranean Assignment.** *By Richard McMillan.* A journalist's account of the Eighth Army's defeat and its final victorious campaign. $3.00

V-17 **The Morale of the American Revolutionary Army.** *By Allen Bowman.* A study of the morale situation in the War for Independence. .... Cloth $2.50 Paper $2.00

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V-24 **Stalwart Sweden.** *By Joachim Joesten.* A discussion of Sweden's rôle in World War II. $2.50

V-25 **The Thermodynamics of Firearms.** *By Clark Shove Robinson.* A text dealing with fundamental principles of thermodynamics as applied to firearms. $2.50

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V-27 **The Toughest Fighting in the World.** *By George H. Johnston.* Fighting in New Guinea. $3.00

V-28 **The Use of Air Power.** *By Flight Lieutenant V. E. R. Blunt.* A discussion of the relation and influence of air power on military and international affairs. $1.00

V-29 **What You Should Know About the Army Ground Forces.** *By Colonel Joseph I. Greene.* A description of the Army unit responsible for all ground combat training. $2.50

Christmas packages to American soldiers serving overseas may be mailed without a request from the soldier, during the period from September 15 to October 15, which has been designated as *Christmas mail month* for soldiers overseas.

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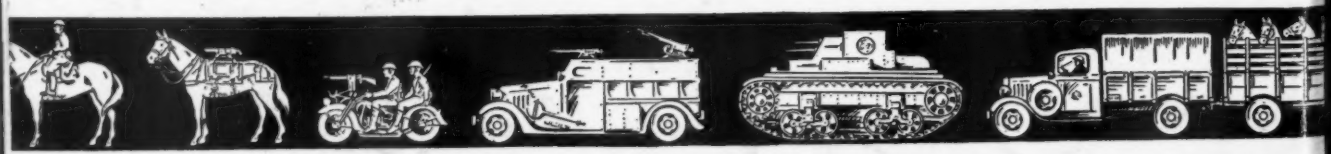
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